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CALIFORNIA JOURNAL OF ELEMENTARY EDUCATION

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CALIFORNIA JOURNAL OF ELEMENTARY EDUCATION

VOLUME IX

FEBRUARY, 1941

NUMBER 3

The California Journal of Elementary Education is published quarterly in August, November, February, and May by the California State Department of Education. It is distributed without charge to school officials primarily concerned with the administration and supervision of elementary education and to institutions engaged in the training of teachers for the elementary schools. To others the subscription price is \$1.00 a year; the price for single copies is 30 cents. Subscriptions should be sent to the Division of Textbooks and Publications.

Entered as second-class matter September 13, 1932, at the Post Office at Sacramento, California, under the Act of August 24, 1912.



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EDITORIAL COMMENT AND NEWS NOTES

CONSERVATION WEEK, MARCH 7-14, 1941

Increased attention to problems of conservation and utilization of the nation's natural resources has been evident in recent years. The American people have tardily awakened to the fact that our store of basic materials has been seriously depleted because of profligate use and waste in the past. Our devastated forest areas, our eroded and impoverished land, our depleted water supplies, our vanishing wildlife, and reduced reserves of essential minerals have focused nation-wide attention on the problem of conservation as one closely related to any constructive program of national defense.

What is the responsibility of education in relation to this problem upon which the future of America and the welfare of its people depend? Without careful planning for wise use of present resources and intelligent restoration of those which can be restored, there is no assurance that our resources will continue to be sufficient to meet the needs of our people. As a nation, we must learn to think constructively about the adjustment of natural resources to human needs.

The curriculum of the schools must deal comprehensively with the problems centered in the wise use of the nation's resources. The careful use of our land, the wise use of coal, oil, and mineral deposits, the careful harvesting and replanting of our forests, the control of our water supplies to prevent disastrous floods and to provide adequately for the irrigation of our arid lands are all problems of practical concern to every American citizen. The awakening of such concern is basic to democratic planning. Intelligent planning for the full use of our resources without waste can only be achieved when the people are fully informed concerning the present situation.

The week of March 7-14, 1941, has been established in California as Conservation Week. Observance of Conservation Week in the schools provides an excellent opportunity to acquaint pupils and communities with specific aspects of the problem. With the entire country deeply concerned about national defense, no service could be more significant than bringing to the attention of youth and adults the relationship between intelligent planning for wise use of our resources and the safeguarding of democratic principles and ideals.

Conservation is a problem of such fundamental importance to national welfare, however, that its sporadic consideration is not enough. In every area of experience which children explore in the school, the problem of conservation should be specially emphasized. In studies of home and community

life, in studies of cultures, in studies of industries, in studies of the development of American democracy, the problems of wise use of natural resources should be considered in order to develop permanent and comprehensive understanding of its significance.

HELEN HEFFERNAN

OFFICE OF EDUCATION CONSERVATION "LIBRARY"

Teaching aids and suggestions to promote conservation education and practice in both rural and city communities, available in several publications, are offered by the United States Office of Education.

Twelve bulletins, four of them available free, form a compact library of reference facts and recommendations in this field of education. If bound into one volume, the bulletins would produce a single 700-page source-book on the subject of conservation.

Prepared by United States Office of Education specialists, the conservation collection includes information supplied by many governmental and educational agencies and organizations.

Inviting use of United States Office of Education bulletins in conservation education programs, John W. Studebaker, United States Commissioner of Education, urged teachers throughout the nation to help pupils "approach adult citizenship with a much clearer realization of their responsibility and opportunity to conserve wild life, forest, land and soil, oil and minerals, and the even more important resources of health and human life."

United States Office of Education bulletins in the conservation collection include:

Conservation in the Education Program	\$0.10
Teaching Conservation in Elementary Schools	0.20
Curriculum Content in Conservation for Elementary Schools	0.15
Conservation Excursions	0.15
Farm Forestry	0.15
Conserving Farm Lands	0.30
Landscaping the Farmstead	0.15
Opportunities for the Preparation of Teachers in Conservation Education	0.05
Good References for Conservation Education in Secondary Schools	Free
Good References for Conservation Education in Elementary Schools	Free
Good References for Conservation of Trees and Forests for Use in Elementary Schools	Free
Good References on Conservation of Birds, Animals, and Wild Flowers for Use in Elementary Schools	Free
Total	\$1.25

Free publications are available from the United States Office of Education, Washington, D. C. Publications for which there is a charge to cover cost of printing should be ordered from the Superintendent of Documents, United States Government Printing Office, Washington, D. C.

GOVERNOR'S PROCLAMATION ON CONSERVATION WEEK

The state-wide observance of Conservation Week, March 7-14, 1941, is requested by Governor Culbert L. Olson in his annual proclamation calling attention to the week and the purposes for which it was established. The full text of the proclamation follows.

War abroad, and our own national emergency have impressed all citizens anew with the necessity of mobilizing all of our resources of manpower, energy, and material for the national defense, and given new meaning to the value of our rich "natural resources" and the necessity of conserving them, guarding them against waste and unlawful encroachment.

For the past several years, the State Department of Education and the California Conservation Council, along with federal and civic organizations, have conducted extensive educational programs acquainting school children and the general public with California's great wealth of natural resources and the wisdom of conserving them.

And, for the past several years, in pursuance of these programs of education, California has observed "Conservation Week" during the month of March at a time including Arbor Day and Luther Burbank's birthday, March 7.

The observance of "Conservation Week" is both timely and appropriate.

NOW, THEREFORE, to this end, I, Culbert L. Olson, Governor of California, do hereby proclaim the week beginning March 7, 1941, as "Conservation Week" in California, and I urge widespread observance and participation by all citizens.

STATE BULLETIN ON NATURAL RESOURCES

A bulletin on the natural resources of California for the use of junior and senior high school teachers has been prepared by the California Conservation Council and published by the California State Department of Education. This publication, *California's Natural Wealth: A Conservation Guide for Secondary Schools*, contains 136 pages, a number of full-page illustrations, and a list of the latest and most available books and magazines. The chapters cover the following topics: What is California?; Planning to Prevent Waste; Water, a Vital Resource; Soil and Agriculture; Forests; Native Flora; Wildlife, Its Contribution to Human Welfare; Recreation and Scenic Areas; Mineral Resources; Conservation in the School Curriculum.

Copies of the bulletin are being distributed to all secondary schools and to all elementary schools with seventh and eighth grades free of charge. Additional copies are available at 25 cents a copy, or 20 cents in quantities of ten or more from the Division of Textbooks and Publications. The amount of the state sales tax should be included on all California orders.

CONFERENCE OF ELEMENTARY SCHOOL PRINCIPALS

The third annual state-wide Conference of Elementary School Principals and District Superintendents called by the State Department of Education is scheduled to meet in San Francisco at the Civic Center, April 6 to 9. The annual meeting of the Council of the California Elementary School Principals Association will be held at the same time.

The conference discussions will center around the theme: "The Elementary School and the Preservation of Democratic Principles and Ideals." Outstanding professional and lay speakers are scheduled to address the conference in four general sessions related to the major topic. One series of sectional conferences will take the form of dramatized presentations of significant functions of elementary principals, showing democratic school administration and supervision in action.

Another series of sectional meetings will give consideration to special phases of educational service as the elementary school plant, the elementary school library, the physical education program, the health program, articulation of elementary and secondary schools, the program of speech education, the guidance program in the elementary school, conservation education, and the mental health of the elementary school child.

The conference will open Sunday evening with an inspirational meeting at the Hotel Whitcomb to be followed by a reception. The San Francisco elementary school principals will serve as hosts on this occasion.

Letters have already been sent to governing boards of school districts and to superintendents of schools urging adequate representation from all school districts and asking co-operation with the State Department of Education to assure as large an attendance as possible at the conference.

BULLETIN ON NURSERY SCHOOLS

A twenty-four page bulletin intended to help the layman to understand the organization of the nursery school, what it does for both children and parents, and what standards should be used in evaluating its work, has been issued under the title *What Is a Nursery School?* The authors are Elizabeth Neterer, a public school teacher of Seattle, Washington, and Lovisa C. Wagoner, Mills College, California.

The bulletin contains a floor plan of a nursery school and drawings giving suggestions for closets and storage space. There is also a bibliography and a list of institutions where nursery school teachers may train.

Copies of the bulletin may be had from the publisher, the Association for Childhood Education, 1201 Sixteenth Street, N. W. Washington, D. C., at a price of 35 cents a copy or 30 cents a copy in lots of twenty-five or more.

PUBLIC SCHOOLS WEEK, APRIL 28 TO MAY 3, 1941

This year the observance of Public Schools Week must inevitably stress the various aspects of national defense, for the whole effort of the nation as it is expressed through each public institution and through every channel of activity is now concentrated on the impregnable defense of the lives, freedoms, and property of its citizens. The minds of the people are agreed on the necessity for defense, whatever the form of preparedness they favor. No less than other American institutions the public school has joined in the preparation for purely military defense. Federal appropriations are being used in the secondary schools to expand vocational training in occupations related to military preparedness. But the schools have a further duty. There is a national strength that provides the true effectiveness behind the tanks, the guns, and the bombers. Modern American life has its own deadly sins: ignorance, greed, intolerance, immorality, and sloth. In a sense these internal enemies flourish best in the tolerant spiritual climate of a democracy. The essential freedoms that are still the blessing of this nation may be said to foster greed, making it possible for the strong to exploit the helpless; to condone weakness, allowing some citizens to be slack and neglectful of the pressing demands of their citizenship. But the very necessities of democracy which decrees that the pattern of the good life is determined by the needs of all the people forbid that these sins shall be rooted out by force. Thus it is for education which aims to leave no one outside its pale to combat these spiritual foes by bringing light into darkness and by girding for strength through understanding. The whole program of free public education must build what the Educational Policies Commission calls the "moral defense of America": the understanding of the nature and goals of democracy; deep loyalties and devotion to the building of a better America; maintenance of conditions conducive to national unity; adherence to democracy in shaping national policy.

Public Schools Week offers a chance to demonstrate to the troubled minds of patrons and parents that every resource of public education is being used for the defense of democracy—the military defense, "in training every worker to the highest level of effectiveness and the useful employment of every worker in tasks of importance"; and the moral defense, by building "confidence in the sincerity and reliability of one's fellow citizens and comradeship in the common search for solutions to the nation's problems."

COLUSA COUNTY CURRICULUM BULLETINS

A commendable series of bulletins on child growth and development, prepared by the teachers of Colusa County as an integral part of an organized program of curriculum development by teachers in-service, has recently been issued by the Colusa County Board of Education. There are six mimeo-

graphed monographs covering primary, fourth, fifth, sixth, seventh, and eighth grades. The separate monographs are accompanied by a "Teacher's Guide to Child Study," which treats the nature and needs of elementary school children, giving especial attention to procedures for discovering and capitalizing on the individual's potentialities, so necessary for the complete development of the child. The content of each monograph on child development at the various levels is divided into two general sections. The first includes statements on the purposes of education, the concepts basic to an understanding of modern life experience as the basis for all learning, the administrator's and teacher's responsibility, the daily program, and the evaluation of the total program. The second section deals with experiences for development of concepts of social living grouped around appropriate centers of interest basic to the program for the social studies.

CALLS FOR BIDS FOR TEXTBOOKS

The California State Board of Education at its meeting on January 30 and 31, authorized the secretary to issue calls for elementary school textbooks for the following subjects and grades for adoption periods of from six to eight years, beginning on dates as indicated or as soon thereafter as budgetary limitations and the amount of time necessary to make the adoptions will permit.

<i>Subject</i>	<i>Grades</i>	<i>Beginning of Adoption Period</i>
1. Geographic and historic aspects of California life	4	July 1, 1942
2. Music	1-4	July 1, 1942
	5-6	July 1, 1943
	7-8	July 1, 1942
3. Reading	6	July 1, 1943
4. Spelling	3-8	July 1, 1943
5. Handwriting	1-8	July 1, 1943
6. Reading and literature	7-8	July 1, 1942
7. Health, science, or combined treatments which include both health and science	1-8	July 1, 1942
8. History, geography, or combined treatments which include both history and geography; in which emphasis is placed upon American institutions and ideals	4-8	July 1, 1943 or July 1, 1944

PACIFIC ARTS ASSOCIATION BULLETIN

The Pacific Arts Association has prepared a convention bulletin containing the speeches of Albert D. Graves, Victor D'Amico, and Flaud C. Wooton, delivered at the Convention of the association held in Pasadena, April 1940. The contents emphasize the theme "Our Heritage, Our Art, Our America," adopted by the Pacific Arts Association for the year.

Further information concerning the bulletin may be secured from Margaret H. Erdt, Supervisor of Art, San Bernardino Public Schools.

CALIFORNIA-WESTERN MUSIC EDUCATORS CONFERENCE

The California-Western Music Educators Conference will hold its next biennial meeting in San Jose on Sunday, Monday, Tuesday, and Wednesday, April 6, 7, 8, and 9, 1941. The conference will convene during the spring vacation which begins on Palm Sunday and includes part of the week preceding Easter Sunday, April 13.

The California-Western Music Educators Conference includes the states of Arizona, California, Nevada, Utah, together with the Hawaiian Islands and the Philippine Islands. The California Conference is one of the six sections which comprise the National Music Educators Conference. The calling of the conference was approved by the California State Board of Education, and the State Department of Education has co-operated in arranging the meetings. Teachers and school administrators have been invited to participate through Walter F. Dexter, Superintendent of Public Instruction, and Miss Helen Heffernan, Chief, Division of Elementary Education.

The slogan for the conference has been given as "Streamlined Teaching" in the general plan of the program already announced. Particular stress will be placed on methods of teaching music in the elementary and rural schools. Teaching procedure will be demonstrated during the three-day period, since the elementary teacher is the one upon whom most of the responsibility for a permanent interest in music is imposed. The areas of the demonstration will be the second, fourth, sixth, and either an eighth- or ninth-grade class from a junior high school. These classes will be in daily session in the Lincoln School, San Jose. The class demonstrations will take place in the morning and panel discussion of the demonstration problems in the afternoon. Each class will be taught according to a daily program, copies of which will be given to persons attending. As a further aid to the elementary and rural teachers, there will be a study of bamboo flutes with opportunity to learn how to make this type of instrument, how to play them, how to teach others to play, and finally to hear a group of children perform on the flutes.

There will be a conference band, chorus, and orchestra composed of selected high school students from the four states in the conference area. The orchestra will be a complete symphonic instrumentation with approximately 175 players. The band will be about the same size and the chorus will number about 300. These organizations will be conducted by capable instructors whose methods of procedure in the rehearsal room may be observed, studied, and evaluated by those who attend the conference. In brief, the conference will be conducted as a large workshop presenting every phase of musical activity including the span from the rural and elementary schools through the secondary and even through the schools included in the upper bracket of education. Teachers in charge of all demonstrations have outstanding ability; the conductors will be experienced experts; the speakers,

persons of educational importance in this state who can bring to the assembled group fundamental facts as well as the inspiration that is needed to revitalize the teaching forces that are so largely involved in preserving our ideals of democracy and the abundant life.

While most of the sessions are devoted to the educational topics, there will be concerts of importance. Of special interest will be the junior college section; rural schools luncheon; the annual banquet which will emphasize "Food and Fun"; the college luncheon; the out of state delegate groups; individual instrumental clinics conducted by expert performers and teachers; the material clinic, presenting the latest, newest, and best things which the exhibitors present for consideration and information.

FORESTS AND RECREATION

Thirty practical foresters, men of the United States Forest Service, have collaborated under the editorship of Russell Lord, eminent writer on conservation, to write the three-hundred-page volume, *Forest Outings*. Written in clear, readable style, illustrated with many pages of photographs, the book describes the national forests of the United States and depicts the vital relationship of forest land, water, flora and fauna, to human need.

Chapters on such topics as Americans Need Outings, Guests of the Forests, The Wild, Winter Sports, Timber and Recreation, Fire, Water and Space, Sun and Air, portray the story of life in America as it depends upon the wise utilization of the bountiful but not imperishable wealth of natural resources.

Teachers will find this book a welcome aid in the teaching of appreciation of forest and forest lands and the need for intelligent utilization of this great heritage, and particularly with relation to the multiple-use values of forest areas, so well treated in the text.

The book may be secured from the Superintendent of Documents, Washington, D. C. The price is 75 cents (paper) and \$1.25 (buckram).

SUMMER CAMP INSTITUTE

Teachers of Kern County were offered September 3, 4, 5, and 6, by Superintendent Leo B. Hart, an opportunity to participate in a unique institute program in the mountains of Kern County. Sessions beginning with an early morning dip at 6:30 and ending with a campfire program at 8 o'clock in the evening, were principally devoted to addresses, discussions, and workshop periods on topics, such as What Books Shall Pupils Use? Landscape Sketching, Art in the School Program, Music in the School Program, Health, Physical Education Activities, Guidance, Use of Instruction Materials. Considerable emphasis was given to the study of environmental conditions bearing upon the problems of the elementary school.

OFFICE OF EDUCATION PUBLICATIONS FOR ELEMENTARY AND RURAL SCHOOLS

Several bulletins on subjects of interest to the teachers and administrators of elementary and rural schools have been issued in recent months by the United States Office of Education.

Helen K. Mackintosh describes in one of these bulletins what elementary education is in terms of the purposes of general education. She shows in an interesting and readable style what the purposes and function of elementary education are in the present day. The bulletin is useful for professional groups and citizens who are studying the elementary school.

Katherine M. Cook, Chief, Division of Special Problems, discusses various courses in the use of visual aids in instruction offered in institutions of higher learning throughout the United States.

Elsie H. Martens gives an account of clinical programs of guidance which are in use in particular city school systems, communities, and states. She suggests that the work of the clinic for child guidance is well done only when co-ordinated resources of all agencies are at the disposal of a single child who needs them.

Walter H. Gaumnitz, Senior Specialist in Rural Education Problems, has collected sixty-six selected references on vitalizing rural education in the United States. Some of these sources, according to the introduction to the bulletin, describe successful experiments and demonstrations; others suggest procedures and activities which have been found effective; still others outline programs which have resulted from the study of rural school problems.

The bulletins are briefly described in the following list:

MACKINTOSH, HELEN K. *Elementary Education: What Is It?* Office of Education Bulletin 1940, No. 4, Part I. Pp. v + 31. \$0.10.

COOK, KATHERINE M. *Opportunities for the Preparation of Teachers in the Use of Visual Aids in Instruction.* Office of Education Pamphlet No. 89, 1940. Pp. v + 13. \$0.05.

MARTENS, ELSIE H. *Clinical Organization for Child Guidance Within the Schools.* Office of Education Bulletin 1939, No. 15. Pp. v + 78.

GAUMNITZ, WALTER H. *Good References on Vitalizing Rural Education.* Office of Education Bibliography No. 66. Pp. ii + 17. Free.

Free publications may be requested from the United States Office of Education, and those for which there is a charge to cover the cost of printing may be ordered from the Superintendent of Documents, Washington, D. C.

STUDY AIDS FOR RADIO BROADCASTS

Music Broadcast Series. The Radio Committee of teachers in Tulare County under the chairmanship of Mrs. Barbara B. Jameson has arranged a series of twenty-six weekly broadcasts over Station KTKC. The programs,

under the title, "Music of Our America," are on the air Tuesday afternoons at 1:45.

A printed manual has been prepared for the use of teachers. The outline for each broadcast outlines its purpose, gives suggestions for preparation for listening to the broadcast, presents carefully prepared program notes, and offers suggestions for subsequent activities which the broadcast might stimulate. The programs are being presented by upper-grade children of the county under the direction of the county music supervisor.

Workbook for Standard School Broadcast. A "Pupil Workbook for Standard School Broadcast" has been compiled by a committee of teachers in Stanislaus County under the direction of Gertrude A. Hoekenga, County Supervisor of Music, with the co-operation of Mrs. Margaret L. Annear, County Superintendent of Schools.

The "Workbook" contains a seating chart and other information about orchestras and bands, explanation of some of the simpler musical terms, and suggestions for pantomines. Eighteen hundred copies have been distributed to rural children of the county in grades 5 to 8.

ANNUAL STATE PHYSICAL EDUCATION CONFERENCE

The State Department of Education announces the eleventh annual state conference of workers in the fields of health, physical education, and recreation. The conference this year will be held in Fresno, April 3, 4, and 5.

An outstanding professional program has been arranged, with special consideration given to the problems and interests of school nurses, doctors, dentists, supervisors, physical educators, elementary teachers, administrators, trustees, and recreation workers. On Thursday, April 3, the main emphasis will be on recreation problems. Health and physical education programs will be stressed on Friday and Saturday.

School trustees, administrators, teachers, and representatives of interested lay organizations are cordially invited to attend the conference.

SUGGESTIONS FOR TEACHING CONSERVATION IN THE ELEMENTARY SCHOOL

LEO F. HADSALL, *Associate Professor of Biology, Fresno State College*

The Seventh California Conservation Week, March 7-14, 1941, should be widely observed by public schools throughout the state. It is significant that such an important phase of education should be recognized by setting aside a special week for its observance.

Effective conservation must however be based on an understanding of our natural resources, their interrelationships, and the best ways to manage them. Only with such knowledge in the hands of laymen, as well as officials, can a suitable plan be successfully designed and executed.

Conservation concepts, like principles of humaneness and habits of safety, become functional in the lives of individuals only after numerous experiences make the interrelationships apparent and the need for conservation real. It is obvious therefore that a special week devoted largely to the consideration of conservation should supplement and not supplant regular conservation instruction. The conservation theme may well permeate the entire school program. Especially in the science and social study classes should children have numerous basic experiences which will make conservation principles real and conservation attitudes tenable.

Conservation means the intelligent use of our natural resources so that they will provide the greatest good for the greatest number of individuals over the longest period of time. This does not mean that ardent conservationists are solely interested in maintaining the *status quo*. It implies use, wise use, so that the natural wealth with which we have been so generously endowed will not be squandered but will be so used and so enjoyed that future generations may inherit an equally fine country, unspoiled by its custodians, the present generation.

Our natural resources are readily classified in two categories. There are the exhaustible resources such as minerals, gas and oil. Man cannot replace these. It is his responsibility to see that they are used with maximum efficiency and the least possible waste. It is possible that science will discover proper substitutes for them as the need becomes greater. Then there are the potentially permanent resources which may be considered as crops and by proper management continued indefinitely. Among these are our resources of wildlife, including game, fishes and birds, as well as the numerous forms of plant life which are so essential to man's interests. The forest once regarded as a barrier to the advancement of civilization is now regarded as an indispensable resource and treated as a crop, under the management of technical

foresters. The work of the Division of Forestry, California State Department of Natural Resources, and the United States Forest Service should be appreciated by every citizen. In recent years the United States Soil Conservation Service has achieved admirable results. The present generation is fortunately becoming conscious that the soil must be properly used, that the elements removed by growing plants must be replaced by fertilization, and that adequate protection must be provided if this heritage is not to be robbed by weeds or eroded by wind and water. The hopes for a prosperous agriculture rest on basic educational experiences which should begin at the lower levels of the elementary school.

The best conservation instruction on elementary school levels will undoubtedly be centered chiefly around the local environment. Observations, discussions, reports, and creative experiences should be organized around local problems. Successful conservation instruction will not be achieved through mere statements of conservation precepts. Children will become ardent conservationists of birds and wild flowers only when they understand how birds are helpful to man and the inevitable effects of ruthless destruction of wild flowers.

Two examples illustrate effective and ineffective conservation instruction. In the first instance, a young barn owl was brought to school by a boy whose father had unwisely brought the bird home to his son. It was an unfortunate situation for there was no suitable way to return the bird to its rightful nest. The teacher in the school recognized an opportunity to help the children discover why the bird was accorded legal protection. The class accepted the responsibility of rearing the bird and carried it out faithfully. The children co-operated in bringing meat and live rodents which were ever in demand. When the bird was grown it was removed to a safe habitat. It is doubtful that any child who observed the owl greedily devour gophers and mice will ever kill or approve the killing of such a valuable bird. No teacher, of course, should encourage the collection of the young of protected species for conservation study. Such undesirable situations may, however, sometimes be utilized to bring about effective instruction.

In the second instance, a teacher in a rural school in the San Joaquin Valley was informed by the girls in her class that a quail's nest had been discovered near the school ground. This teacher advised the girls to withhold the knowledge of their discovery from the boys in the school. The secret was kept and the quail hatched and led her young away. Conservation of a sort was thus effected, but apparently those who needed conservation instruction most were neglected and the teacher missed an opportunity to establish basic habits of behaviour in regard to nesting birds. Conservation cannot be taught effectively by evading the issue.

In planning a conservation program, it is desirable that certain goals be established so that the instruction may be effectively directed. The following are suggested as major objectives:

1. To become familiar with some of the manifold natural resources with which Americans have been so generously blessed, and to recognize their importance to man.
2. To determine how our natural resources have been affected by the activities of man.
3. To become acquainted with the agencies and the practices involved in effecting more desirable uses of our natural inheritance.
4. To establish those functional attitudes which will lead to co-operation in effecting desirable conservation practices and to the discouragement of those practices which result in the dissipation of our natural wealth.

It is impossible in a brief article to formulate an elaborate program. The following activities have been organized around the foregoing objectives, and are presented in the hope that they may prove suggestive for the elementary school teacher. Most of them are of such a character that they may be centered around the local community. Teachers should not make the mistake of studying soil erosion in the Middle West before they study the effects of wind and floods in their local area. Many of the activities have been purposely selected so that they may be carried out by elementary children on trips into the country. A brief bibliography is included especially for the use of teachers. The references particularly suitable for children are indicated with an asterisk.

SUGGESTED ACTIVITIES

A. Becoming Familiar With Natural Resources and Recognizing Their Importance

Learn to identify common rocks, minerals, and metals.

Discover how minerals are formed.

Locate famous mines in California and in the United States.

Investigate to determine which mineral resources are lacking in this country.

Learn to identify the kinds of soil common to your locality.

Observe layers of soil along road banks or dig into the earth to see if you can discover different layers of soil.

Consider the soil as the home of plants and animals.

Explore the dependence of all life on the soil as the ultimate source of food.

Show the importance of water to living things, both plant and animal.

Make a graph to show the monthly distribution of rainfall in your local area. Compare with a map of the United States which shows mean annual rainfall.

Prepare maps to show what happens to the rain which falls in your community.

- Note water levels in local streams at different seasons of the year.
- Learn to identify common wild flowers. Classify them by size, color, form, and habitat or place where they may be found.
- Attempt to discover the role played by trees in the conservation of wildlife, soil, and water supply.
- Make a list of the ways in which trees contribute to man's comfort and happiness.
- Name and describe trees and shrubs to be found on the school or home ground and in the nearest forests.
- Make a collection of woods commonly used in the manufacture of tools and the construction of homes.
- Make a survey of the birds and mammals to be found in your community.
- Make maps to show the distribution of native species of mammals.
- Identify native fishes, reptiles, and amphibians.
- Learn to recognize some insects which are harmful, and others which are beneficial to man's interests.
- Present reports covering the life histories of several local birds whose chief food is rodents; of several kinds whose chief food is insects; of several birds whose chief food is weed seeds.
- Consider the importance of larger mammals in providing man with fur, and in controlling rodents.
- List several scenic resources which you think a visitor to California would be interested in visiting and observing.

B. Determining How Our Natural Resources Are Affected by Man

- Consider avoidable and unavoidable waste of our mineral wealth.
- Locate the principal mining areas in California, in the United States.
- Locate the sites of several ghost towns and indicate why they were abandoned.
- Show how poor farming practices have resulted in soil depletion.
- Explain how vegetation helps to conserve the soil and regulate water supply.
- Experiment to determine how soils may be improved by fertilizing garden soils.
- Observe the effects of rain and wind on soil under leafy trees; under trees which have shed their leaves; on freshly ploughed soil; on level grasslands; on steep barren slopes; on roadsides which have been planted with trees and shrubs; on unplanted roadsides.
- Find where the top soil has been blown away. Note effects.
- Look for the beginnings of gullies.
- Make a map of streams in your locality. To what extent has man influenced their courses? Locate several dams and also areas where man has made land productive through irrigation.

Locate fertile lands which have been produced by draining swamps, and marshes. Investigate to discover what effects this has had on animal life which formerly occupied these areas.

Enumerate the harmful effects of stream pollution. Try to discover whether efforts are made by local industries to avoid stream pollution.

Compare present abundance of wild flowers with that of fifty years ago.

Make a collection of single specimens of some of the wild flowers that were used by the Indians.

Colored sketches may be made of these and the specimens may be pressed and arranged in a class book, together with the name of the collector, where the plant was found; its abundance, height and the names of some other plants found in the same area.

Make posters illustrating flowering herbs, trees and shrubs that have been introduced into California from other countries.

See Duncan's *Wild Flower Roads to Learning*, for lists of imported plants and plants used by the Indians.¹

Consider effects of reckless picking, destruction by cultivation, grazing, roads, and effects of commercial collecting and selling of certain species.

Learn to recognize wild flowers in special need of protection.

Compare relative needs for protection by woody plants, annual plants, and bulbous plants.

Make graphs and maps to show the relative distribution and abundance of forest areas in California and the United States today as compared with an earlier period.

Contrast former wasteful methods of lumbering with modern methods of handling the forests as a crop.

Locate areas which have been replanted by man. Consider how this activity may lead to the prevention of soil erosion and destruction by floods.

Investigate to determine the causes of forest fires and their harmful effects.

Consider the reasons for the decrease in the abundance of fish and game since the coming of the white man.

Account for the decrease in the abundance of fur-bearing mammals in California.

Make a list of animals that have been introduced into California by man.

Make a list of birds and mammals that have been exterminated or are threatened with extermination at the hand of man.

Prepare reports on the life histories of these.

C. Becoming Acquainted With the Agencies and the Practices Involved in Effecting More Desirable Uses of Our Natural Inheritance

Learn what may be done to prevent waste of our metal and mineral resources. Expose unpainted and painted metal tools to the weather and compare results.

¹ Carl D. Duncan, *Wild Flower Roads to Learning*, Science Guide for Elementary Schools, Vol. II, No. 8, March, 1936, p. 32.

Become familiar with the work of the United States Soil Conservation Service. Observe how soils may be rebuilt or continued in production by proper methods of cultivation, crop rotation, and fertilization.

Investigate efforts of farmers to prevent soil erosion.

Determine what efforts have been made to conserve the water supply in your area. List the agencies responsible for the control of floods, irrigation and the manufacture of power in your area. Make a map to show where the electricity used in your area is manufactured and how it is transmitted for your use.

Locate several large dams which have been constructed for the purpose of supplying communities with water.

Learn what the state is doing to prevent pollution of streams, to advise travelers of desirable and undesirable sources of drinking water.

Attempt to determine through reading whether clear water is always safe for drinking purposes.

Become familiar with state game, fish, and forestry laws.

Consider the duties of the officials of the Division of Fish and Game, California State Department of Natural Resources, in enforcing the laws, educating the public and replenishing the supply of fish and game.

Learn the provisions of the Federal Migratory Bird Act.

Make a list of private agencies interested in the conservation of wildlife and indicate how they are contributing toward the solution of this problem.

Compare the value of game farms, refuges, closed seasons, licenses, and establishment of game limits in conserving wildlife. Visit game preserves, game farms, fur farms, fish hatcheries, or bird refuges if possible. Make maps to show the location of several noted national bird refuges.

Learn what other boys and girls have done in helping to encourage wildlife about their homes and schools.

Consider what has been done to prevent the destruction of marine birds and wildlife along our Pacific shore by restricting the dumping of waste oil from ships.

Determine what efforts are made by the California Department of Public Works, Division of Highways, to beautify and protect the right of ways.

Discuss laws or ordinances made by the State Legislature and county supervisors to conserve wild flowers in your area.

What is the duty of every good citizen who may see persons breaking these laws?

Examine the newspapers and magazines to learn what they are doing to inform the public of conservation needs and progress.

Become familiar with the conservation work of the California State Department of Natural Resources, Division of Forestry, Sacramento; and with the United States Forest Service, San Francisco, by writing for their available publications.

Enumerate economies and how they have been effected through careful forest management. Note how the forests are protected from disease, fire, insects, and overgrazing. Learn the duties of a forest ranger.

Make maps to show the location of national and state parks and forests. Visit some of these if possible.

An excellent map showing the location and features of the State Park System is available through the State Department of Natural Resources, Division of Parks, San Francisco, California.

Consider what efforts have been made to make the parks enjoyable. If an excursion is made to a park visit the museum, follow a nature trail if one is available and ask the ranger naturalist to guide your group.

Consider why cats and dogs are not permitted to roam about at liberty in national parks.

D. Establishing Functional Attitudes Toward Conservation Practices

Supervise the collecting habits of children. Impress upon them the importance of care in collecting and the proper care of their collections. Note that the collection of birds and their eggs is forbidden by law. Minerals should be neatly arranged and boxed. Wild flowers should be picked only legally, and with due caution as to their abundance. Branches should not be broken from trees. If blossoms are to be gathered from woody plants, select side branches and make a clean cut with a sharp knife. Removing the ends of the main branches is more likely to destroy the natural form and beauty of a woody plant.

Establish a balanced aquarium. Compare the results with life in an aquarium which contains animals but no plants.

Sow seeds in pots containing different soils, such as rich loam, pure sand, and alkali soil. Note the growth of plants in each. Repeat this experiment or elaborate it to include soils which have been treated with different kinds of fertilizers.

Observe animals which make their homes in the earth. Consider the effectiveness of the animals such as gophers and earthworms in the improving of the soil.

Consider the beneficial as well as the destructive effects of animals which are classed as vermin.

Debate merits of hawks, owls, crows, and members of the nonprotected list of birds in California. Calculate the value of certain species to the farmer each year.

For example, if one barn owl destroys three pocket gophers each night during July, how many pocket gophers will it catch during that month; or if each pocket gopher would cause five cents damage to Mr. Smith's crops during July, how much would two barn owls save Mr. Smith during the month of July?

Write codes by which individuals can be measured as to whether they are good sportsmen. For example:

1. No matter how much wild life may be legally taken, never take more than you can reasonably use. Observe all legal limits.
2. Never fish or hunt on private lands without permission.
3. Never, under any circumstances, shoot until you see clearly what you are shooting at and know that it is legal to take it.
4. Have a proper contempt for the killing of wildlife and the destruction of wild flowers for sale; and co-operate in seeing that the law is properly enforced.
5. Be careful with fire.
6. Do not be hasty in reaching the decision that a wild animal is essentially harmful because it does a harmful act. The normal behaviour of an organism for a reasonable period of time must be observed and considered if we are to compose a true picture of its relation to the balance of nature.

Discuss some of the things thoughtless boys and girls do that destroy the lives of helpful birds, mammals, insects, reptiles and amphibians.

Construct a bird sanctuary on school or home grounds. Provide nesting boxes, a bird bath and feeding station. A secluded area provided with shrubs, low vines will be particularly attractive to birds. Keep a careful record of both frequent and casual visitors.

Learn to recognize possible harmful effects of handling diseased animals and poisonous plants.

Learn to landscape school and home grounds properly. Identify species especially desirable for home, school, and street planting.

The American Tree Association, 1214 Sixteenth Street, Washington, D. C., and the United States Forest Service, San Francisco, will furnish literature describing the proper procedure for planting and caring for trees. A tree planting project may be well carried out in connection with Arbor Day but the responsibility should not end there. Children should see that the tree is properly watered and protected from injury. Annual measurements should be made to note the growth and these records may well be kept for school reference.

Keep a tree diary of a deciduous tree on the school and home grounds. Note when it loses its leaves, when the new leaves appear, when it blooms, when it produces its fruits, how the bark and form differ from that of other common trees. Include sketches of the fruit, seeds, leaves and buds. Note visitors to the tree and birds that make their nests there or that come there to feed. Identify and learn what you can about the life histories of the birds, squirrels, and insects that come to visit the tree.

Prepare a list of trees and shrubs suitable for planting in your locality. Learn to identify these.

Observe an evergreen tree to see when it sheds its leaves.

Examine a dead tree to see if you can determine the cause of death. Is there evidence to show that it was seriously affected with fungous growths, blight, insects, seared by fire or girdled by man?

Examine a tree stump, and attempt to determine its age by counting the rings of growth.

Make a list of trees noted for size in your community. Locate some trees which are of historical importance.

Make a special study of the California Poppy, our State Flower. Plant seeds of California Poppies on school or home grounds.¹

Prepare an exhibit of flowers which may be picked with caution. Use a few specimens of each kind, and pictures of those which should not be picked at all. Make labels to identify each specimen, collector, and other pertinent information. Make plaster casts of wild flowers.²

Gather a bouquet of flowering weeds. Place them in a vase in the school room until they wither and die. Compare with flowers which remain on plants in the field. Observe insect visitors and method of pollination. Observe the seeds and fruits of plants and note how they are distributed. Note their importance to the plant, if we are to have flowering plants in future seasons.

Practice arranging flowers. Emphasize the fact that a few flowers carefully arranged are more beautiful than large masses of flowers thrust into carelessly chosen containers. Experiment to discover which last longer in the room, a few flowers carefully arranged or many flowers jammed into a container. Use flowering weeds for this experiment.

Prepare a list of wild flowers that should not be picked; have this duplicated and sent to each child's home.

Collect cartoons and pictures illustrating the necessity for conserving our natural resources.

Pupils may make conservation badges for themselves, their parents, and their friends.

Individual conservation booklets may be prepared by each student or a record of their work may be incorporated in a class booklet containing sketches, photographs, essays, clippings and colored pictures.

Consider the proper behaviour of boys and girls with reference to their natural resources by establishing a code for good out-of-door behaviour.

The following items may be considered:

1. Obey all safety precautions when building campfires.
2. Be sure the campfire is out before leaving it.

¹ Anna B. Comstock, *Handbook of Nature Study*. Ithaca, New York: Comstock Publishing Co., 1939, \$4.00.
Ricker, P. L. *The California Poppy*. Circular 47. Washington: The Wildflower Preservation Society, Inc. (3740 Oliver Street), 1935.

² Helpful directions are given in the following publication: Leo F. Hadsall, *Suggestions to Teachers for the Science Program in Elementary Schools*. Science Guide for Elementary Schools, Vol. I, No. 1, August, 1934.

3. If a fire is discovered, see that the proper agencies are promptly notified.
4. Keep off the grass of public and private lawns.
5. Never rob a bird's nest.
6. Be very careful about visiting nesting birds. Cats and dogs may follow your tracks to the nest and destroy the eggs or young; or the young may become frightened and leave the nest before they are able to care for themselves.
7. Watch birds and other wild animals to learn of their habits. More can be learned from watching than by chasing them away. Never throw stones or shoot at harmless birds or other wild animals.
8. Help to see that the beaches, highways, school grounds, home lawns, and picnic grounds are kept attractive by placing rubbish in proper containers, or destroying it.
9. Refrain from carving initials on the trunks of trees, or peeling the bark.
10. Cut no rare wild flowers.
11. Where wild flowers are abundant, collect only a few and leave the rest to produce seed. Cutting is far preferable to picking or pulling wild flowers from the earth. The latter practice should not be condoned.
12. Obey all laws governing the gathering of wild flowers.
13. Never offer wild flowers for sale.
14. Collect no flowers when in so doing you remove most or all of the leaves from the plant.
15. Avoid pulling up any plants by the roots, other than weeds.
16. Never pick wild flowers and throw them away or permit them to wither. Wrap freshly picked wild flowers in damp paper or cloth so that they may remain fresh until they are placed in vases containing water.

Organize garden clubs, wild flower preservation clubs, or Audubon clubs. Prepare and present plays demonstrating the need for conservation and how children may help.

Prepare posters encouraging the conservation of wild flowers, birds, mammals; and write slogans urging the conservation of forests, flowers, and wild life.

Take photographs of flowers, trees and scenic areas. Encourage the hunting of birds and mammals with camera or field glass rather than with gun and trap. Post photographs on bulletin boards and include in class book. He who would hunt and hunt for fun should use a camera instead of a gun.

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* Suitable for the use of the children.

CONSERVATION: A CHALLENGE TO THE SCHOOLS

CARL D. DUNCAN, *Professor of Entomology and Botany, San Jose State College*

Conservation is in the air! Awakened by the combined inroads of destructive fires and rapidly growing industrial consumption on our forest reserves, profoundly disturbed by the steadily increasing millions of acres of once fertile farm land now abandoned because their store of nutrient minerals has been exhausted, and appalled by the stream of disaster, misery and destitution that has flowed out of the "dust bowl," the people of America are now aroused to the urgent need for conservation, not simply of trees and soil, of water power and petroleum, but of all the nation's resources. Something must be done about these things!

Something is being done, but it is not enough. Our numerous projects in reforestation, in the reclamation of abandoned farm lands, in flood control, in arresting the march of erosion, are splendid and impressive. They are the expression of an aroused national consciousness but they are not enough. The reason they are not enough is that they are directed at the solution of only one of the major aspects of the main problem of conservation. The other aspect, though less spectacular, is even more basic.

Some of our conservation activities, such as flood control, are made necessary in part by the operation of natural forces over which we have little or no control. In still too small a degree, however, the measures put into effect thus far are but the medications of our technical physicians aimed at curing diseases that have been caused by wasteful conduct in the past. We shall not have an adequate program of conservation until, through general enlightenment, we shall succeed in preventing at their source the evils we now seek to cure. ✓

Interest in conservation and enthusiasm for conservation are growing apace. On every hand are organizations fostering the conservation idea and conferences for the discussion of conservation problems. Conservation is taught in the schools and the period of March 7-14 has been designated as Conservation Week. ✓ But in the very rapidity with which the conservation program is developing there lies a danger. We all love a parade and there is danger that the conservation movement may become something of a parade. If this be permitted to occur, then, when the parade has passed, too many of us will lose interest and the conservation movement will languish.

The time has come to make an inventory of our ideas, our methods and our goals, to make sure of our orientation and of the origin of impulses that guide us in our efforts. Several questions need to be asked and answered. Just what is conservation? Is it always the same thing? What kinds of things

are we conserving or should we conserve? How are we to conserve them? What is the function of the schools in furthering the program of conservation? Most of us can give only indefinite or incomplete answers to these questions.

Obviously the conservation movement should not develop in the manner of a real estate boom. Actually and ideally, conservation should not even be a "movement" or a "program." It should be rather a guiding principle or concept, born of sound knowledge and expressed in habits of thought and action as nearly universal as common courtesy and good manners. The principle of conservation should as consistently modify and condition our behavior as does our ideal of cleanliness. It should permeate every phase of our living and pervade every stratum of society.

Conservation Week or a conservation program alone is no more equivalent to thoroughgoing conservation than a spring housecleaning by itself is equivalent to general hygienic living. The most that can be expected of Conservation Week is that it shall be a period of emphasis, or an annual occasion for evaluating our progress, not an end in itself. Conservation Week should be but a symbol of the ideals of conservation that are behind it. These ideals must be made to function throughout the twelve months of the year. Only when we succeed in doing this, may we assume credit for genuine achievement in conservation.

Conservation is not simply a matter of quenching forest fires and of preventing large corporations from grabbing reserves of valuable raw materials that should belong to the government for use in national defense. Conservation embraces many things and everyone should share in it. It is appropriate, therefore, to examine the scope of conservation, to consider what things we shall conserve and how and why.

To conserve some things is to preserve them inviolate for all time or for as long as possible. The value of a natural bridge, of a petrified forest, or of dwellings built high under a gigantic cliff by the peoples of a vanished race, derives from its very existence. From the contemplation of such wonders of nature and of human endeavor come inspiration and exhilaration and spiritual uplift. To permit the destruction or defilement of such treasures is the sheerest folly. The need for their conservation may almost be taken for granted.

But it is not only in celebrated places that such preservative conservation is possible. There are many lesser wonders that in their more limited way are highly valuable and merit respect and care comparable to that given widely advertised natural treasures. They are to be found in every state and in every community. They are the local waterfalls or cliff or fossil bed or sand dune or sea beach. They are the big oak tree that stands at the bend in the road or the old tavern that was once the stopping place of travelers over the mountains. And the too frequent defilement of such things in this land of ours

is compelling evidence that to date we have failed sufficiently to imbue our people with the spirit of true conservation. Not until the creeks that traverse our settlements and the vacant lots that sandwich in between our homes and business establishments shall regularly be places of beauty instead of repositories for tin cans and paper and old license plates or the rusting hulks of discarded automobiles may we feel that we have succeeded in making the conservation spirit a part of our national character.

The value of some things lies not in their preservation but in their use or their consumption. To preserve or hoard such things is to place their values beyond reach of man. It is to be miserly with them. Conservation in such cases is a matter of intelligent utilization. What this amounts to varies with the nature of the thing in question, the character and urgency of the need for using it, and the amount of it that is available. A man recuperating from an illness will conserve his strength by lying in bed and exerting himself as little as possible, but should his home catch on fire the same man will put forth every effort to reach a place of safety even though it carry him to the point of exhaustion.

We have reserves of oil, coal, natural gas, and minerals which, though extensive, are definitely limited in quantity. Wise use requires that these be expended only in proportion to genuine need and that none of them be wasted. The rate at which our reserves of these important substances should be used is largely a problem for experts to determine. However, unless we as individuals are trained to appreciate the necessity for judicious utilization of such limited resources and to entrust their conservation to persons of proper qualifications, we shall not be able to co-operate intelligently and to provide the legislation needed to make the judgments of our experts effective.

The training that is needed in this connection should begin in early childhood and continue throughout life. Such training is rooted in many things. The child who learns respect for his books and his clothing, the one who learns how properly to care for his toys and his pets, is getting such training. The child who learns to use his time to best advantage, the one who learns to conserve his spending money in order to acquire something he has desired for months, the boy or girl who learns not to overexert in starting a hike and not to drink all of his canteen of water at the beginning of a hike, is getting such training.

It is the teacher's job to make the connection between these elements of childhood training and the ideals of conservation on which they are based. It is for the teacher to bring the underlying significance of such training into consciousness as the child becomes the youth and the youth becomes the adult. Training in the successful husbanding of one's personal resources should lead gradually and easily to a recognition of the importance of a comparable careful husbanding of the resources of the nation as a whole.

There are some resources that must be used to be valuable but which, if properly used, are never exhausted. Instead, they are replenished by natural processes. Such resources include our soils, our forests, the native plants on our grazing lands, the fishes in the sea and our fresh waters and other creatures too numerous for mention here. If we consume these more rapidly than they can be replaced by nature—and we have been doing just that to a large extent up to the present—then we are heading straight for disaster sooner or later, and it may be sooner than we think.

Conservation of these resources is not a matter of rationing. It is rather a matter of management, of balancing consumption against production. The procedure differs with every resource. With our forests and our sardine and salmon fisheries it means use in moderation in place of use without restriction. Above all it means utilization in such a manner that the sources of production shall be unimpaired.

The case of our soils presents its own problems. Our agriculture makes much heavier demands on our soils than our forests do. We harvest a crop of trees once or twice a century. We take a crop from our soils one or more times a year. And every crop removed from the soil carries with it some of the mineral nutrients that constitute much of the fertility of the soil. Moreover every crop carried away from the land means the loss of leaves and stems and other plant parts which in a state of nature would be converted into the humus that is the most important leavening influence in soil.

To conserve our soils, aside from the prevention of erosion, is to maintain, or even to increase, their fertility. This requires that minerals and humus be added to the soil in quantities equal to or greater than those taken away. This is an inescapable situation. Our failure adequately to realize this fact is eloquently attested by more than fifty millions of acres of abandoned farm land in the United States. And the acreage of impoverished though not yet abandoned land runs into the hundreds of millions of acres!

Not all of this land lies east of the Rocky Mountains. One need not look far in California to see orchard soil covered with four-inch high grass and weeds when adjoining roadside strips and other uncultivated land lies knee-deep in similar herbage. Every such piece of orchard soil has gone a long way down the road toward unproductiveness and ultimate abandonment.

Such soil impoverishment is not limited to broad acreages of farm land. The same thing is occurring to the soil of millions of city homes. How common is the complaint "When we first came here our lawn was green and velvety and our flowers healthy and vigorous. Now look at them! The lawn has spots in it and our flowers are scrawny. They grow a while and then just up and die. It can't be the water for I give them plenty. Some disease must have got into the soil." In the majority of cases the home owner is right but the disease is not what he thinks. It is malnutrition that should have been prevented by the practice of conservation.

The prevention of further exhaustion of our soils depends on education, partly by governmental agencies, by pamphlets, bulletins, radio broadcasts and news articles, but even more by the schools. And until conservation becomes an ingrained habit the educative goal will not have been reached.

Knowledge of every phase of soil development must be taught and understood. The boy who learns to convert fallen leaves and twigs into compost instead of burning them is learning an essential procedure in the maintenance of soil fertility. Burning garden refuse does not destroy minerals—they remain in the ashes which may be put back on the soil—but it does remove the nitrogen without which plants cannot thrive. Furthermore burning prevents the addition of the vegetable debris to the dwindling reserve of humus in the soil. ✓

The schools can teach the value of water conservation, not only to maintain soil moisture and to prevent soil from being carried away, but also to prevent valuable minerals from being dissolved, washed out of the soils, and carried down the rivers to the sea. The schools can teach the value of cover crops, of permitting weeds to grow and of then plowing them under on orchard land that is not planted to cover crops. Even on the vacant lots of our cities and along our highways it would be far better to plow such plants under than to burn them as is now the practice. Burning always reduces soil fertility; plowing vegetation under always builds it up. ✓

Finally the schools can teach respect for the myriad little creatures—insects, worms, millipedes, etc.—that throng our native soils and do so much, along with bacteria and fungi, to develop and maintain soil fertility. Only a few of these creatures are injurious; the vast majority are beneficial. Through their burrowing activities and because they bring about the decay of vegetable matter that produces humus, they carry on a work of soil mixing and enrichment that man cannot hope to duplicate and without which there would be no true soil. The person who, in childhood, learns never to kill anything wantonly and to appreciate the lives and importance of lowly creatures is the one most likely to develop those habits of thought and action that result in genuine conservation.

The challenge to the schools is obvious. The response to that challenge should be enthusiastic and universal and it should have staying quality. We need Conservation Week to serve as a focus of attention and to point the way but we must realize that the school's real contribution to conservation is insistent, persistent, unceasing effort, unassociated with posters and fanfare, in day-to-day teaching throughout the year and through many years to come.

CALIFORNIA'S PROBLEM IN THE CONSERVATION OF PLANT AND ANIMAL LIFE

LLOYD G. INGLES, *Associate Professor of Biology, Chico State College*

The conservation of natural resources must play an ever increasing role in the lives of all of us if we are to remain a great nation. Those countries of the past that have ignored the fertility of the soil, by overgrazing or by allowing it to leach away into the rivers are the ones that are today most frequently visited by famine. Those peoples that cut away their forests without making an effort toward replacement are poor today and frequently are the victims of devastating floods. If we expect to retain our present "place in the sun" we must deal with our natural resources intelligently. If there is any unity in the policies of the two major political parties at the present time, it is that our natural resources must be conserved. But, in a country where individual freedom and ownership of private property are basic for its citizenry it is almost certain there will be a few who abuse their rights and thus ignore and jeopardize the future welfare of our nation. Unfortunately, these are the ones who would ruin forever valuable agricultural land to secure the gold in the gravel below it. There are still too many people who kill our fish by turning poisonous factory wastes or muddy waters into our beautiful streams. On them must focus the spotlight of an enlightened and socially minded public.

The teacher who attempts to introduce conservation experiences in the school must be fully aware of the interests of these and other minority groups. He should, however, look beyond these immediate values to a few and ask—How will the present use of this or that natural resource affect us as a nation? How will the next generation feel about our use of it? Is the way we are using the resource, an intelligent one based on sound scientific principles?

Experiences in the conservation of wildlife for use in elementary education in California are nearly unlimited and vary greatly from one part of the state to another. Many teachers have indeed been introducing these timely experiences in their programs for many years. Sometimes, of course, these attempts miscarry because the teacher himself lacks the scientific training to understand many of the fundamental plant and animal interrelationships that are basic to such well-organized work. More frequently, however, the children receive improper guidance in conservation because a well-meaning teacher lacks a broad view of the subject. For instance, too often we see or hear of efforts to classify our native birds as *good* or *bad*. It must be remembered there is perhaps no bird or mammal that is wholly good or wholly bad. Evaluation from the economic point of view is necessarily a

relative one for most species of animals and many plants. The great horned owl may be very undesirable as a sportsman sees it, because it kills many pheasants and rabbits, but it may be desirable from the truck farmer's point of view who regards both pheasants and rabbits as pests. Robins in a cherry orchard must certainly be controlled, but that, of course, doesn't mean extermination of robins everywhere or even continued persecution, except at the place where they do the damage. Their general good, economically, far exceeds the local damage. There are, of course, other good reasons for encouraging robins as well as most other birds.

The elementary teacher can do a very great deal to instill proper scientific and social attitudes toward these and many other phases of conservation. Children are occasionally destructive of native plants and animals. Little girls who gather armfuls of tiger lilies are just as destructive as the boys who shoot orioles. Perhaps the best way to induce the proper attitude is to increase the child's knowledge about the flower or bird. Girls who have been taught how to make and appreciate the beauty of simple flower arrangements, using only a few flowers as compared to the handfuls hurriedly crammed into a fruit jar to wilt, are less likely to gather every one in sight. Special attention of an outdoor art session to the beauty of a lily growing in a wild state might help considerably to instill a desirable attitude. Making posters which show the beauty of certain wild flowers and how these are frequently destroyed may be a part of the art experiences. The child who makes and exhibits such posters in public places is less likely to be among those who violate the spirit of them. The boy who has been taught to put horsehair, string, or yarn on the clothesline for the orioles during nesting season is not likely to shoot these birds promiscuously even if they do take a few cherries. He soon appreciates aesthetic values of birds as well as the overstressed economic ones. Making bird houses, feeding tables, and bird baths are means toward the accomplishment of the same aim, namely, better attitudes toward the birds and better understanding of the part they play in the lives of all. In at least two rural schools in northern California the entire school ground was made into a bird sanctuary by planting flower beds of zinnias, lupins, and many fruiting wild shrubs such as redberry, coffee berry and toyon.

Another activity that could be introduced in almost any school is raising from the seed the showy wild flowers and many of the beautiful native shrubs and trees of California. These natives are becoming more and more popular in landscaping, and in private and public gardens throughout the state. A field trip after the seeds, a few tin cans, a little earth, and some water is all that is needed. Whether the seeds are germinated in a small lath house or in the schoolroom, the children soon acquire much interesting and valuable science experience from such projects. The plants may ultimately be used to landscape the schoolyard or may be taken home and planted there. If a rural school could raise a sufficient number of plants such as the native sugar

bush, the manzanitas, or buckbrush, in cans, they could be transplanted along some of the bare banks where cuts have been made for roads, or where fire has swept away the growth, thus preventing slides and soil erosion and at the same time beautifying the landscape. Likewise forest trees might be planted on areas where they could be expected to grow. The teacher should, of course, familiarize himself with the requirement of such plants so as to give the best possible guidance in pursuing such a project.

It is far too much to expect all school children to acquire the mass of scientific knowledge necessary for sound policies of conservation. Simple experiences and activities such as those outlined will go a long way, however, toward giving them and the teacher the right start. The teacher who is aware of the importance of conservation and enthusiastically attempts some such problems will be rewarded in the end. He must keep the children active and alive not just during conservation week, but throughout the year. In so doing he will be contributing to the welfare of the nation by enlightening its future citizens whose attitudes will determine our all-important future policies about natural resources.

THE SIGNIFICANCE OF CREATIVE EXPRESSION¹

JOHN A. HOCKETT, *Assistant Professor of Education, University of California, Berkeley*

Let us consider first the nature of this thing called creative expression. If we try a free association test, such synonyms and concepts as the following come to mind: originality, ingenuity, inventiveness, experimentation, uniqueness, initiative, freshness, newness, and change. If, on the other hand, we think of the opposite or alternative to creativeness, such words as these suggest themselves: habit, custom, routine, conformity, imitation, standardization, conventionality, uniformity, rigidity, repetition, memorizing, training, indoctrination. It can scarcely be doubted that human nature contains strong tendencies of the two types suggested by these groups of contrasting terms. Every individual craves the security derived from custom and routine as well as the stimulus which results from change and originality. It is equally true that every age and cultural group has had its conservatives and its progressives.

Schools and teachers, too, as well as parents, communities, and cultural epochs may emphasize the development of one or the other of these basic tendencies. Schools, along with the rest of man's institutions, have always put much greater stress on habit, conformity, and memorization than on flexibility, creativeness, and unfettered thinking. What the cost has been of thus binding man's mind and spirit to the achievements of the past no one can calculate. Indeed, the general conviction has been that only the rare genius could create, that the great mass could but imitate and conform. The evidence today, however, is clear—that all normal people can and do create to some degree, that each may learn to live more creatively if he is encouraged to do so. The valuation one places on creative expression depends upon one's philosophy of life. Some of us crave above all else the satisfactions of endless repetition and the security of well-tried routine. There are others who hold that man's rich inheritance of mind and emotion fit him to live on a higher plane, wherein originality and flexibility are eagerly sought and supremely enjoyed.

I should like to state and defend four propositions of basic importance in considering this matter of creative expression:

1. Creative expression is essential to the development of the individual.
2. Creative expression is essential to the preservation and extension of democracy.

¹ Adapted from an address given before the Conference on Direction and Improvement of Instruction and on Child Welfare, Pasadena, October 3, 1940.

3. Creative expression is essential to the solution of the problems of the present age.
4. Creative expression is essential to the health and welfare of teachers and supervisors.

The significance of creative expression in the development of the individual. Psychologists and physiologists are just beginning to glimpse the vast possibilities of the human organism. They use astronomic figures to describe the numerous and complex potentialities of the central nervous system. Experiments in creative education, also, uncover hitherto unsuspected possibilities for originality in the average child. Casual contacts with very young children reveal a uniqueness and freshness in their everyday reactions to common experiences. The tragedy of conventional education lies in the paucity of its goals. In its zeal to habituate children to a few common conventions, it has neglected, discouraged, and frustrated the development of the truly human resources of the child. If the phrase we use so hopefully at present, "the complete development of the child," has any significance, it must not only include but emphasize the release of the individual's creative powers. All else is but animal training.

Through artificial selection and breeding, man has made great improvements in the plant and animal world. Through a creative kind of education, he can lift himself to higher levels of living. Life is potentially creative: education can make it so actually. Creative expression, then, is essential to the development of the individual since without the release of the creative abilities he is doomed to live forever on a subhuman plane, along with the plodding ox and the faithful horse—even the mechanical robot.

Integration of personality comes as the child gives himself wholeheartedly to the pursuit of purposes which he himself values. Only emphasis on the development of the child's native abilities can build such integration. A school program in which the pupil is a docile or unwilling accomplice in furthering the teacher's purposes, in which he devotes half or less of himself to the accomplishment of school tasks, is likely to promote disintegration rather than integration.

Creative expression is essential to the preservation and extension of democracy. The essence of democracy is respect for the individual, but respect for the individual has no meaning unless it implies concern for his full development. One cannot respect immaturity for itself, but only as an indication of potential development. One might, I suppose, be foolishly sentimental about children and strive to keep them immature, but any real consideration and respect for an individual must involve efforts to promote his growth along all possible lines. The democratic philosophy of respect for the individual can have no other possible meaning. Thomas Mann defines

democracy as "that form of government and of society which is inspired above every other with the feeling and consciousness of the dignity of man."¹ In contrast, he says, "All men of violence, tyrants, those who seek to stupefy and stultify the masses, and all who are intent upon turning a nation into an unthinking war-machine in order to control free and thinking citizens—these necessarily despise humanity."² The democratic concern for the individual and his development provides the justification of universal education in a democratic society. Unless the educational system, however, seeks the greatest development of each individual's capacities, it is false to the democratic faith that justifies its existence.

There is another reason why creative education is important in a democracy. The democratic process involves participation by all in making decisions that concern all. Wise decisions cannot be made unless each person is competent to weigh values and choose intelligently; unless, in other words, he is creative in his thinking. Furthermore, leadership in a democratic society inheres in ideas rather than in persons, and ideas are the products of creative thinking. Joseph K. Hart has stated the challenge to educators in these words:

. . . The schools are either the hope of democracy, or they are the defeat of democracy.

They will prove to be the hope of democracy, if they learn how to discover the intelligence latent in the community, especially in children, and turn it to constructive human ends. They will prove to be the defeat of democracy if they shall fail to discover that latent intelligence; or if they shall not know what intelligence is when they come upon it; or if they shall be frightened of it and suppress it, substituting for it the materialisms and dogmatisms of old bookish knowledges. Which they shall be, remains for us to help determine.³

Surely the teachers of America, committed to the service of all, through the education of children, have a special concern for the preservation and extension of democracy. If the principles of democracy were to be repudiated in our country as they have been throughout much of the world, education as we know and cherish it would disappear. Schools would become propaganda agencies for promoting the dogmas of the dominant group, and the minds and spirits of coming generations would be warped and debased. On the other hand, if the teachers of our land can sufficiently awaken to the challenge that confronts them, if they will study seriously the educational implications of the democratic concept of the dignity and worth of each individual, and if somehow they can make those implications effective in the life and work of the school, they can do much to prevent here the catastrophe that has befallen so many other peoples. The essence of such an education would

¹ Thomas Mann, *The Coming Victory of Democracy*. New York: Alfred A. Knopf, Inc., 1938, p. 19.

² *Ibid.*, p. 23.

³ Joseph K. Hart, *The Discovery of Intelligence*. New York: The Century Co., 1924, pp. 423-424. Used by permission of the publisher.

be unrelenting emphasis on developing the creative potentialities of each child.

Creative expression is essential to the solution of the problems of our age. The achievement of a more thoroughgoing democracy, as well as the defense of the democracy we now enjoy, are rendered doubly difficult in these critical times. I refer, of course, to the threat of competing philosophies of life and the danger that we may be overwhelmed by force and treachery, or that we may lose our liberties in the effort to defend ourselves against foreign aggression. But the threat to democracy goes even deeper than this, for we are living in an age of profound transition. Since man appeared on the earth, he has lived under an economy of scarcity. Even with the most irksome and continuous toil he found it difficult to produce enough of the goods of life to sustain himself and his family. This stubborn reality has colored his every thought and action. All his concepts of philosophy, government, religion, morality, and social conduct,—all his institutions have been based upon this unescapable and dominating fact. Now, in our generation, for the first time in a hundred thousand generations, all this is in process of change. Through the exercise of his creative genius in studying the forces of nature during the past few hundred years, man has reached the point just now where he could easily and surely produce enough for all. There is conclusive evidence that the hope of a society of security and abundance is no longer an idle dream; it could be made actual. If we could but develop through education the creative abilities of the coming generation, and freely use our human resources in the solution of these complex problems of a transition age, we could indeed approach Utopia. Let me quote from a stirring challenge to the educational profession presented by Harry Elmer Barnes.

Says Mr. Barnes:

The gulf between our material culture and our institutional life imposes upon mankind the most critical responsibility in the whole history of the race. If we bridge this gulf, by bringing our social thinking and institutions up-to-date, we cannot evade the speedy realization of a material utopia. On the other hand, if we fail to do this we are likely to drift into economic collapse, world war, barbarism, and chaos. . . . To close in the gap between our machines and institutions is, therefore, the supreme educational task and responsibility of our generation.¹

You may feel that Mr. Barnes is unduly alarmed. I wish we could safely ignore his challenge and go on our way undisturbed. Events throughout the world, however, seem all too obviously to validate his diagnosis and his reminder that it is later than we think.

You will agree that we shall solve no problems by war. Only the creative use of man's intelligence will solve the tremendous problems brought about

¹ Harry Elmer Barnes, "The Responsibility of Education to Society," *Scientific Monthly*, LI (September, 1940), 250. Used by permission of the publisher.

by the machine, itself the product of creative effort. Only a creative kind of education can liberate the constructive energy needed today. In all earlier periods of human history, training in conformity could suffice for education, since the slow rate of change could safely be ignored. A new kind of education is imperative if people are to survive successfully in an age of deep-seated strains and maladjustments and of bewilderingly rapid change.

If the creative approach to life and learning is essential for everyone, it is doubly important for teachers and supervisors. Little but imitation and boredom can come from the classroom dominated by a routine-loving drill-master. Teachers must be eager for vital experience themselves, and sensitive to life's many values if they are to inspire and guide young people to creative achievement. They must grow in the ability to sense new relationships in familiar areas of subject matter and to express new understandings in new and better ways. They ought to ride hobbies that stimulate them to original expression. Above all, they should think of their teaching as a continual adventure that ever challenges their most discriminating insight and their highest skill. Who faces a greater opportunity than the supervisor, who can work to build in teachers such a conception of teaching and who can constantly help interpret such an ideal in practice?

Opportunities for creative expression are not adequately supplied by adding a half an hour here for drawing, and another there for "creative" music or rhythms. The need is for a school whose curriculum and life are permeated with an emphasis on originality, vitality, and integrity of expression on the part of all its members. We speak of the goals of social living, of creative expression, of mental health, of the integration of personality. These are not separate goals to be achieved piecemeal. So interrelated are they that we almost necessarily achieve all or none of them. How else may these objectives be attained save through a curriculum organized as a series of experiences which are significant and challenging to the pupils? In a school with such a curriculum pupils co-operate in selecting their goals, and share in the planning, the responsibilities, and the successful achievement of their purposes. The insights and skills acquired in one experience are used to make subsequent enterprises more successful and satisfying. I could describe to you many situations where I have been thrilled to see pupils and teacher working together co-operatively, happily, and creatively in these ways. You can picture such scenes that you have been delighted to observe. Our problem is to make such situations universal.

If the creative aspect of the child's personality is to grow, he must have the sympathetic guidance of a wise teacher. This guidance must help him sense more clearly the realities of the things he touches, and feel more vividly the beauties, the joys, and the sorrows of his various experiences. Enjoying and understanding the poems, the music, the paintings, and thinking of

others will help here greatly. There must be time in the school program for these things. There must be no suggestion that such a use of time is somehow less worthy or profitable than time spent on spelling and numbers. Then, as children sense previously hidden relationships and experience vivid emotional reactions, they must be encouraged to find new outlets for the more adequate expression of their understandings and feelings. This they cannot do unless the atmosphere of the school is consistently favorable to sincerity in experiencing and in expressing. The reason such unusual work in poetry and prose came, several years ago, from the Lincoln School, Teacher's College, Columbia University, is due not only to the genius of a creative teacher, Hughes Mearns, but also to the favorable climate of the whole school for integrity and originality in expression.

Let us think of creative expression as a fundamental necessity in the personality of the individual, not as a mere adornment of the curriculum to be added if there is time and opportunity. Creative effort is a basic necessity throughout life. It is required in any phase of the thinking process, in recognizing problems and defining them as well as in projecting hypotheses and drawing conclusions. Creativeness may express itself in the suggestion of plans for class organization and methods of work. It may be expressed in any material, not merely in painting or modeling. It can take the form of words, bodily movements, or dramatic action. Whenever the individual throws himself wholeheartedly into an experience and strives to give expression to his own intellectual and emotional reaction, creative expression occurs. The idea or feeling may be relatively unimportant; the expression may be crude and inadequate. The teacher's role is to help the child experience more fully and express himself more adequately. She encourages children to look more carefully, listen more attentively, touch or taste or smell more acutely. She cautions them to be more critical of their data and their conclusions. She asks them to take note of beauties, implications, problems they would otherwise overlook. She provides, whenever possible, for a "rendezvous with inspiration." Similarly, as children seek to express that which they have experienced, she helps them define more clearly the thing they wish to express, guides in the elevation of standards, and makes possible growth in the skills necessary to satisfying achievement.

The techniques of guiding creative expression are relatively new to many teachers. They are neither mysterious nor especially difficult, but they are different from the techniques of drill and memorization. Mastery of these techniques involves growth by the teacher, not only in living more creatively herself, but in becoming more sensitive to the unexpressed motives and needs and possibilities of the boys and girls of her class. As I observe the work of the rare artist-teacher in contrast with that of the average one, I am impressed by her attitude toward Jimmy and Mary and Tom. Each pupil is a distinct personality with definite needs which she constantly studies and seeks to

meet. Her dominant interest is in the development of children, not in an impersonal type of instruction or training. She knows how to organize the class group and to provide experiences that will "bring out" each individual, that make it easy for each to express himself as he is, and to grow into a larger self through the experience.

I have tried to show that creative emphasis in education is of basic importance in the development and life of the individual, that it is a social necessity in the achievement of the democratic way of life, and in the solution of the baffling problems of our times. It seems to me appropriate to make this emphasis, for if we do not become seriously aroused we shall not put forth the sustained effort necessary to lift schools and teachers out of the ruts of complacency and routine that have been deeply worn during previous generations. As leaders of teachers, however, you and I have before us the challenging opportunity of helping to make education a more vital and constructive force in the development of the individual and of society. To meet this challenge will demand the utmost of creative effort on our part.

THE DEMOCRATIC IDEAL

ABRAHAM MINKUS, *Teacher, Tarzana Elementary School, Los Angeles*

It seems worth while to think about factors in the public school situation, and in the social situation behind it, which frequently make teachers' adherence to the democratic ideal very difficult; to consider the nature of the teaching that more nearly succeeds in holding to the democratic ideal; and to affirm the necessity for teachers to stand firmly by their progressive principles so that they will not compromise them in practice to the extent that they forfeit the right to claim these principles.

What is the significance of the democratic ideal? Certainly the democratic ideal stands for many things, but it must be conceived essentially as involving equality of opportunity, the brotherhood of man, and the right of the people to determine the conditions under which they work and live. Apart from these there is no democracy.

Consider the social situation which makes us concerned in the first place about our democratic ideal. Equality of opportunity no longer exists. For a long time there was ample free acreage for those who wished to engage in farming, and farming was a self-sufficient occupation. The situation was truly democratic. But by 1880, fully twelve years before the Oklahoma land grab, there were already over a million tenant farmers in the United States. The age of free and inexpensive land is past. Agriculture has become highly mechanized, large-scale, and competitive. The farmer is almost altogether dependent on his purchases from industry and on his sales to industry.

William H. Kilpatrick has pointed out that the city dwellers are even more dependent than the farmers. "Most of the factory-workers must remain factory-workers, and so with most of their children. There is not enough room at the top for all, or factories enough to go around."¹ For a time one avenue of economic self-assertion remained. The upsurge of new industries created secondary fields of small, commodity enterprises such as gas stations, radio repair shops, used-car lots. But by 1930 monopoly began to reach to the interstices of the industrial field, and these secondary enterprises no longer promised a successful release from wage employment to those seeking economic independence.

After the introduction of the machine, those who fought their way, in rugged competition, to control of the machine and the factory, achieved through production for profit, the concentration of capital in their hands. Monopolies and combines resulted. Since this happened, there has been a titanic "battle between predatory corporate groups and the democratic spirit

¹ William H. Kilpatrick, "New Developments, New Demands," *Journal of the National Education Association*, XXIV (November, 1935), 261-62.

itself."¹ The late Senator Borah, in talking about the corporation, said, ". . . even in a time of so-called prosperity, seventy million of our people had an income of less than \$800 a year, and it is estimated that 4 per cent of the people owned 80 per cent of the wealth."² It requires a powerful imagination to conceive any kind of equality, social or otherwise, existing beside such stark economic inequality. Our democratic ideal has suffered. Kilpatrick has written, "Our sense of economic security is greatly shaken, the economic system having forfeited our confidence. Our former equality of opportunity no longer holds; the few may 'rise,' but not altogether or on equal terms. This older notion of equality of opportunity is impossible with factories and large corporations."³

What has happened to our rights to determine the political tenets that mold the conditions under which we work and live? For a long time the power of the ballot box was lost to the people. Bought votes, subsidized motion pictures, subsidized newspapers, subsidized radio, stuffed ballot boxes, and dictated party platforms have been joker cards held by monopoly capital. Joy Elmer Morgan says, "Selfish corporations have learned the art of allying the voting public with their enterprises."⁴

In recent years, however, there has been a tremendous surge in the social consciousness of the people. There has been a growing resentment against special privilege on the one hand and against an economy of scarcity on the other. On various occasions during this period in the states and in the nation, the number of voters exceeded all previous records as the people gave independent expression to their needs and desires as distinct from the advice of a large section of the press openly subverted to the use of the privileged few.

The intense issue of these recent years has been democracy versus privilege, but now a different era is opening. The struggle of the last years is being blurred. Today there are many citizens in the land who are very fond of speaking in the name of democracy, but who are least conscientious in fulfilling its requirements. These persons, intentionally or otherwise, act to submerge the strivings of common people for a greater voice in their own destinies. Yet even now, under the force of the currents of half a world plunged into war, and although threatened by the demagogic riptides of selfish high finance, the people are clinging to the democratic tradition.

And what is education to do about preserving the democratic ideal? The efforts of teachers thus far have been inadequate to the new vision of their responsibility. Teachers must realize with Kilpatrick that they are, and must be, social philosophers. With our generation lies the burden of

¹ Joy E. Morgan, "The Corporation in America," *Journal of the National Education Association*, XXIII (December, 1934), 228.

² *Ibid.*, 227.

³ William H. Kilpatrick, "The Social Situation and the Curriculum," *Journal of the National Educational Association*, XXV (January, 1936), 1.

⁴ Joy E. Morgan, *Op. cit.*, 228.

proof for the proposition that education can do otherwise than merely maintain the *status quo*, that it can foster the necessary adjustment of our culture to the changing civilization.

What is our approach to be towards the preservation of the democratic ideal in the classroom? Are we to make a realistic approach to the social-economic scene? Shall we let dramatic play reconstruct the problems of the children's homes, of their brothers without work, of their fathers on strike? Are we to mention the words "striker" and "union" and "employer"? Is the schoolroom to deal with the legal right of employees to bargain collectively with employers through their own unions?

Such conditions, many would tell us, may be too close to the child's life or too inherently complex or too controversial to be adequately simplified in the learning situation. To others, no doubt, such a dismissal of the problem will appear too easy a solution. When a difficult question of this kind is easily disposed of, and in such a manner as not to be subject to any criticism from the *status quo*, one suspects a good deal of rationalization.

Yet only the most courageous of teachers attempt to deal honestly and directly with the so-called controversial issues as they bear on the lives of the children, even though they are the kernels of our contemporary life. Imagine a teacher discussing the polar relationship between capital and labor in a company town during a strike. It takes no wide-browed prophet to say that he would lose his job. For the kind of social and economic pressures that are everywhere used to bulwark the *status quo* are found concentrated in the company town. And too often boards of education are the direct political arm of the economic power of big business for the control of education. Certainly economic power is the foundation of political power. Yet no one questions the fact that this economic power does not rest with broad sections of the people. The Committee on Academic Freedom of the Department of Classroom Teachers of the National Education Association endorsed this statement of Joy Elmer Morgan: "There is a very real and far-reaching effort on the part of our giant industry and business directly and indirectly to dominate education so as to destroy its freedom to deal with the great social and economic problems which require intelligent study for their solution."¹

What teachers can do safely under extreme conditions is to encourage in pupils orderly processes of thinking, so long as the subject matter evolved touches only indirectly on controversial modern life. Teachers can even attempt in small ways to emphasize the democratic conception of the brotherhood of man. We need not be cynical. A teacher who seriously accepts this minimum of responsibility in the classroom in conjunction with a more thorough participation in the clarification and solution of the affairs of adult life outside the school is at least fulfilling a measure of the responsibilities

¹ "Report of the Committee on Academic Freedom," *Journal of the National Education Association*, XXIII (December, 1934), 255.

of good citizenship. If he is not a hero, and in this day many heroes are needed, he is at least not completely defeated by the antidemocratic forces of our time.

In the service of the attempt to hold to the democratic ideal through teaching pupils how to think for themselves, the classroom becomes a selective environment that holds many stimuli to rich and worthwhile experiences. The pupils are allowed to purpose individually, to plan, to execute, and judge, and are guided in all these activities so that their behavior advances the good of the group. Furthermore, the teacher helps make these responses to situations satisfying, to insure that these learnings will be for the future as well as for the present. Purposeful life experiences, then, arising out of felt needs, are receiving social expression, with intelligent guidance to insure a habituation of the pupils to complete and ordered acts of thought in response to needs. Their needs will be many. Only this kind of thinking will pull them through. The pupils in such schoolrooms are learning to think, and to think socially. This is the minimum contribution teachers need to bring to the rising generation toward the solution of their problems. It is the essential way open to teachers in which to hold to the democratic ideal in the classroom.

It is necessary to consider what this means. A teacher who brings such real democracy into the schoolroom educates boys and girls to an environment that does not exist outside the schoolroom, for in the outside world the consideration of social values is deplorably rare.

The child's integrated personality has been integrated only in terms of a highly selective environment. Many of the irritations or stimulations of an outside world, having no friendly configurations into which they may become harmoniously organized, make a great demand upon the adaptive capacity of the individual. What is even more significant, the actual life environment makes demands on the pupil that are directly counter to existing behavior patterns. This dramatic difference between the ideology of the classroom and the ideology of business perhaps may be conceived most realistically as one of the significant factors in the staggering impulsion upwards of figures on insanity and the lesser neuroses. The individual is torn one way by existing sets and in another direction by new demands. The tug drains the strength of the integrated schoolroom personality. The integration goes the way of our democratic ideals and we have unintegrated personalities coping in mad struggle with modern life, with the uncontrolled machine and its ogre-shadows.

Is this what progressive teachers fight for? The progressive teachers did not plan the confusing separation of ethic and economic force in our modern life, but recognizing its existence the progressive teachers will not, can not, subserviently abandon their humanist ethic in favor of a contemptible anti-democratic integration. Certainly progressive teachers have no illusions of an

easy transfer of attitude from our schools to the street, office, and factory. They know the titanic struggle for readjustment. But they know, too, that their pupils are prepared to the extent of being accustomed to think democratically and responsibly. They know the victories that may come out of the struggle for reintegration. Environment changes man. But man also changes environment. On this premise rests the eager hope of many.

Restriction of academic freedom has been mentioned as a great factor in limiting the setting up of a democracy in our public school situation. What else hinders teachers? Something in the school situation, something in themselves. The great difficulty, and it is a very real difficulty, particularly in the first years of teaching, is lack of experience. Teacher-training schools, such as the University Elementary School, University of California at Los Angeles, through exemplification of the democratic idealism, inspire teachers to emulate those basic attitudes and ways of working that characterize genuine classroom democracy. Many public school situations are in blunt contrast to this background. From training school to public school is a step from one world into another.

In training-school experiences there are primary values like the processes of thinking, purposing, evaluating, individual creative self-fulfillment, and social fraternity, whereas in the ordinary school there are primary values like time periods, board work, plans, material to be covered by certain dates, group discipline bordering on the military, program dates, and a daily battery of subject matter called arithmetic, physical education, spelling, music, art, social science, penmanship, language, and reading. To say the least, this new order calls for a tremendous readjustment on the part of the young teacher. The strain is great, and under it many teachers are prone to relinquish their ideals. These teachers become the formalists and the false progressives. They sacrifice organic content in the need for meeting the administrative requirement of smoothness of technique. This is the sacrifice no teacher must make. If the exacting demand of a particular school situation requires that the teacher ignore the implications of purposing for awhile, let it be that way; but the democratic ideal must not be thrown overboard at every suggestion of difficulty. It is reasonable to believe that as the teacher's experience grows, if he is firmly resolved not to abandon his principles for convenience, he will find more and more that he is capable of bringing together into a progressively compatible relationship the democratic ideal and administrative technique.

Our democratic idealism must not go. It is the finest attribute of our profession. It is the great gift teachers must bring to society.

Out of the brutality of industrial America, out of the mechanization in which individuals are crushed and broken, out of a suffering that came from no evil in men's souls but from the compulsions of societal development, a song is rising.

The teachers are contributing to this song a progressive education for a truly democratic civilization. They are trying to inspire all the dead machinery, the droning inhuman technological development, the whole country of leaden-eyed people. They want to reawaken the people to living, to thinking, to shaping life. They wish to reaffirm the principles of democracy, they wish a rebirth of the democracy that has been dulled somehow.

Teachers are collaborators in this song that is rising out of the twisted heart and brilliant hope of America and which holds this enlightened interpretation of the democratic ideal: that as individuals we need self-expression and that it is our birthright to develop our capacities to the fullest extent. In that right is our democratic equality. On it is based equality of opportunity and the sadly frayed Bill of Rights. And in this song they say that everything is for the purpose of this fulfillment of creative man, of creative America—all man's institutions, all man's heritage are agencies in this continuous rebirth of satisfied human purpose.

And in this song, the song of the progressive teachers and the people of America today, throbbing through it in growing crescendo, is an undertone of poignant beauty. It has something to do with the scientist who experiments with dangerous serums. It has something to do with posthumous books. It has something to do with the conscious Pippas passing through our lives. It is the religion we have tragically and rightly come by in our American life of rugged individualism, the spirit fundamental to the frame of democracy. All individual growth shall proceed within the boundaries of the service of man.

The progressive teachers make of this philosophy a way of life and a way of teaching. In them is the promise and the fulfillment of responsible democracy.

IN-SERVICE TRAINING IN PUBLIC HEALTH FOR TEACHERS

JOHN D. FULLER, M.D., C.P.H., *Health Officer, Santa Cruz County*

Fundamentally, any public health program is a program of education. In order to give more immediate community protection, certain public health procedures have been necessarily of a service type, namely, smallpox vaccination and diphtheria immunization. With this service is automatically dispensed a certain amount of information; and sometimes, though all too rarely, the service follows upon some real educational work. One type of program common in this country, tuberculin skin testing, is actually an effort at widespread public education and the arousal of public interest, though the benefits it offers to direct community control of tuberculosis are quite small. However, the information and education which are a part of service programs in public health work or school health work, while often excellent in themselves, are neither far-reaching enough nor constant enough in their application. Administrators in both public health and education must be concerned, not with what is accomplished at the moment, but what the net result of constant teaching efforts will be in raising the health level of coming generations. Such advancement will be in direct proportion to the degree with which present school children have, by the age of parenthood, accepted certain public health principles as natural essentials to daily living.

The public schools have for many years now been an established and well-organized institution in this country, with increasingly well-trained personnel, and increasing breadth of opportunity for the student. By contrast, official health agencies have been slow to develop, bound by politics, and until recently, most often staffed by incompetent and often only part-time health officers, nurses, and sanitarians. The public school system has provided a certain amount of public health instruction, and has provided it through teachers whose training standards have risen year after year. Yet public health officers and nurses have decried what to them was a glaring deficiency in health education of the child and have supplemented or, even, often supplanted the school teacher by utilizing personnel and methods outside the direct educational field in an attempt to rectify this defect. Skin testing, immunization, and other programs carried on by local health departments are, I believe, excellent supplemental efforts to the routine school program, and have tremendous psychic value to the community. However, those in the public health field, while quite properly assuming to be specialists in this field, nevertheless often mistakenly feel better qualified to disseminate public health knowledge, or to teach health in the school than

anyone else. This is born of a natural desire to provide important public health information and teaching which children do not now receive. The curriculums of most teacher-training institutions do not provide a course in public health and preventive medicine which is compatible with community needs. A course in anatomy, kinesiology, and physiology, with a small amount of training in general public health concepts or epidemiology, is satisfactory for certain phases of physical education, but does not fit a teacher to give students the type of public health knowledge that public health officials feel necessary. A basic understanding of the subject as we see it is lacking.

Nevertheless, health officials must bear in mind that the teacher is a highly trained specialist in educational methods; they are not. It remains, then not to supplant her by public health specialists, but to give the teacher the fundamental and special knowledge which she is then in a better position to teach because of her professional training than anyone else.

Commissions have been established in several states to correlate teaching material to meet the requirements of both public health and education departments. Such a program is estimable, but it remains a difficult if not impossible task at this time to move with sufficient rapidity the unwieldy machinery either to change the teachers' training courses to the higher standards of public health we desire, or to provide proper textbooks for public school use. Frequently public health textbooks now commonly in use have been either not revised for many years, or are not carefully selected after consultation with trained health officials.

Moreover, while it is theoretically possible to provide personnel with an education degree in addition to a master's or nurse's degree in public health, there is no practical provision in average communities for paying the salaries which such persons should command. Further, while certain special courses in the public health field should undoubtedly be included in the secondary school curriculum, public health teaching must, in primary grades if not all, be a matter of daily, perhaps hourly, application of the teacher's knowledge.

It, therefore, seems logical that a person highly trained in medicine and public health should provide a course for teachers in-service to give them in complete detail the scientific information essential to control of community health. The teacher, who, I repeat, is an expert in teaching methods, would then apply her training as an educator to the new knowledge in her daily relationships with students. The logical person to give such an in-service course for the teacher is the trained health officer.

Such a course was prepared and presented by the Santa Cruz County Health Officer last year in Santa Cruz as an extension course of the University of California, and in connection with the evening high school. It required fifteen two-hour lectures at weekly intervals and provided two units

of University credit toward a bachelor of arts degree. It was designed for school teachers in-service, and provided, in addition to the regular lectures, numerous round-table discussions. The course was prepared from the health officer's own knowledge and his application of this to the peculiar needs of the local community, and from a careful search of available literature and material from experts in the various fields discussed. It was supplemented by guest lecturers of unquestioned renown in their own spheres of work, by motion pictures, laboratory demonstrations, and some observation of clinical cases. Persons enrolled in the course were given a syllabus containing reference information which, it was felt, would provide a quick and accurate review for teaching purposes later. A distinct effort was made not merely to provide didactic scientific information, but to inculcate in the teacher a new concept of, and attitude toward, public health as a part of daily living.

For example, smallpox occasionally invades California, carried by itinerant laborers from Mexico. A simple, effective, cheap method for protecting persons against this disease was discovered over one hundred and fifty years ago. Yet no group of educators, though well versed in the method itself, has ever so educated any generation that smallpox vaccination became an accepted part of normal living for every child over six months of age. Many dozens of other examples can be given of modern health knowledge which has failed in its application due to the lack of complete public understanding and education. This knowledge must have its firm basis in education of the child in school. Over the years great strides were made in teaching methods and in provision for ever broadening the scope of public school education in other fields; but health knowledge, the most important for a child to gain, was relegated to a position inferior to other subjects due to lack of deep realization of the true importance of health teaching and a mastery of scientific health fact. This situation we have tried to bring home to teachers and have pointed out a means for its correction.

To quote from the introduction to the Teachers' Course in Elements of Public Health, its object was "to instruct in fundamentals of health protection, in order that health instruction and physical education will not merely be accidental either in content or result. To emphasize the necessity for minimal personal health instruction throughout the elementary grades, plus special required courses of more advanced character in junior and senior high divisions of secondary schools."

It was a foregone conclusion that it would be impossible to cover the entire public health field completely in such a brief period. Consequently, all phases of public health were touched upon in an effort to give concrete examples of each phase of the work, and to develop a type of thinking in regard to the subject which would provide a proper entree to further and more complete study in the future. A brief descriptive outline of the course follows:

1. Community Health—1 Lecture

Development from early sanitary and cholera control measures; present aspects of sanitation, with special demonstrations on rural and urban water supply and sewage disposal systems; housing and growth problems in cities; accident prevention and industrial hygiene.

2a. Community Health—Continued

School buildings—constructional details for health and safety; vital statistics; citizen responsibilities.

2b. Family Health

The family as the basic epidemiological unit; communicable disease relationships; social aspects of psychic and cultural background; need for increased parent-teacher relationships.

3. Communicable Disease

First lecture: fundamentals of communicable diseases and their construction.

Second lecture: public health aspects of certain communicable diseases.

4. Round Table Discussion

One lecture period devoted to laboratory demonstrations, and recapitulation and clarification of communicable disease lectures.

5. Personal Health

First lecture: general factors influencing personal health such as heredity, rest, play, physical fitness, etc.; historic highlights, psychic influences, posture, and muscle co-ordination.

Second lecture: nutrition—a resume of all fundamental facts.

Third lecture: diseases of malnutrition, with special emphasis on dental caries.

Fourth lecture: preparation for marriage and parenthood—a discussion of sex psychology and certain problems of mental development.

Fifth lecture: degenerative diseases and their control; unhealthful influences of modern living; the psychology of advertising; a comparison of informational and instructional methods in modern business, with the possibility of their application to the teaching field.

6. Communicable Disease Control—1 Lecture

Chronic diseases involving special problems, with motion pictures and case demonstrations on tuberculosis, syphilis, and gonorrhea.

7. Round-table Discussion—1 Lecture Period

Review, question box, and supplemental instruction.

8. School Health—1 Lecture

Hygiene of the instructional program; brief discussions on first aid, examinations of school children, social relationships, safety, physical education, and attitudes toward health instruction.

9. Public Health Administration

First lecture: resume of the development of official health services; a brief discussion of school health law, and of general public health laws relative to schools and school-age children; an outline of local health facilities.

Second lecture: local services for school health; for the child, for the family, for the school building; co-operative planning for public health.

10. Final Forum

Papers due on assigned subjects; a final discussion of practical applications of the course.

Contact with teachers in the schools during the past year has been exceedingly satisfying. Teachers who attended the health course last year show a very definite change in attitude and perception of health needs, and tremendous improvement in the knowledge of their students in regard to these subjects. Apparently also the syllabus which was provided last year is being utilized by the teachers, and I have had numerous expressions, both oral and written, of their appreciation of the benefits which they feel have come as a result of their additional knowledge. This course was repeated beginning January 16th, 1941, in the other principal town in Santa Cruz County. In order to interest a larger group, it was given without University credit and did not therefore entail the additional expense required for enrollees the previous year. There were changes and additions to the course as it was previously given. I realize that it has many deficiencies, but I feel that there is the greatest opportunity for correction of such details through the actual instructional experience with the teachers themselves.

There is no question in my mind but that such in-service instruction of teachers is the logical approach to the problem of better education of the coming generation in all fields of public health. Furthermore, it is not only possible in any community where there is a trained public health officer, but provides better than anything I know a greater intimacy, interest, and liaison between official public health personnel and the trained teaching profession.

LEARNING EXPERIENCES LIKELY TO PROVE DEVELOPMENTAL TO YOUNG CHILDREN ¹

GRETCHEN WULFING, *Supervisor of Primary Education, Oakland Public Schools*

America is living through one of the most difficult periods of her history. America's schools are inevitably affected by the anxiety and uncertainty of the times. The gravity of the situation is compelling all of us to look closely to our purposes and practices, that we may pursue the course necessary for the common good. Some of us will make our contributions through military service or through increased production necessary for military defense. Others of us will be engaged in the equally valuable service of maintaining morale and building a more dynamic democracy at home. Our nation is made strong in proportion to the physical well being and welfare of its children as surely as by the perfection of its fighting power.

Our predicament is not altogether disheartening. The united effort of a sincere people is bound to give direction and renewed allegiance to those phases of our society that are unique and precious. There is much in the current situation to encourage schools to believe that a fine developmental program for young children is attainable. An enormous amount of observation and experimentation has clarified our knowledge of children's growth, their ways of learning, their interests, and needs. The study of readiness for learning has relaxed heavy requirements in the acquisition of skills, particularly at the primary level. And finally, there are elements in the national emergency which give a tremendous impetus to fine group living. The renewed emphasis on the democratic way of life cannot fail to make schools more desirable places for children.

The essence of a program likely to prove developmental for children is expressed by Ruth Strang in her description of a school she had visited:

The role that the teacher played . . . is interesting. She was there to see that the right kinds of play materials were provided and to help the children do better things they would naturally do anyway.²

The teacher then needs to know what little children do naturally when adult direction is removed, what they are interested in, what their physical limitations and possibilities are. She must be able to arrange an environment that will take account of their natural interests, yet extend and enrich their knowledge of the world about them.

What do we know about children five to nine years of age that will help us in guiding their learning experiences? Physical growth which has been

¹ An address delivered at the Conference on Direction and Improvement of Instruction and on Child Welfare, Pasadena, October 3, 1940.

² Ruth M. Strang, *An Introduction to Child Study*. New York: The Macmillan Co., 1930, p. 168.

rapid from birth is now somewhat slower. Children are cutting new teeth—their six-year molars and their permanent incisors. They commonly suffer from such physical defects as diseased tonsils, adenoids, carious teeth, defective vision, and malnutrition, all of which have an effect on their capacity to learn.

Physical activity is marked at this period. Children like to skip, jump rope, climb, skate, balance on a rail, engage in imitative rhythms and in active running games. Fine motor co-ordinations develop more slowly, but we find children of these ages driving nails, making crude objects of wood, building with blocks, painting, modeling in clay, cooking simple dishes, doing coarse sewing, and gaining skill in putting on and taking off their own clothes.

Language expression varies considerably with the child's natural ability and his opportunity to hear and use good English in his home and at school. His vocabulary is built largely through direct experience with his environment. He asks many questions, but he is not always able to express himself in complete sentences. He learns through repeated use of English in natural situations to carry on a conversation with others and to give a connected account of a personal experience.

Imagination is strong in children of this age. Through play children dramatize the activities of adults and so learn the ways of the world. Schools are slowly coming to realize that play is an important medium through which the young child learns. Unfortunately, there are many parents, perhaps even some school folk, who believe that play is a waste of time. "Children are sent to school to learn," they affirm. Yes, children *are* sent to school to learn, and play is one of the most direct and vital means of accomplishing this end.

Young children show surprising ability to reason and to judge their own problems. Given a desire to make a boat and freedom to think for himself, a child can select appropriate materials and plan the steps in its construction. It is the task of the school to help children recognize problems which are real to them, and to guide them in finding their own solutions.

Children of this age are usually labeled as extreme individualists. Psychologists tell us that this trait is perhaps overemphasized since a growing interest in group activity is also characteristic. In a favorable environment spontaneous co-operation and sharing of tools and playthings are often observed, even among very young children. The school can provide that favorable environment which will help children develop qualities of social behavior that enable them to live happily together in groups.

A picture of the young child begins to take shape: his physical growth has been rapid, is now somewhat slower; he is physically active but his motor co-ordinations do not yet permit fine work; his language reflects his experience and his environment; he likes to share his experiences with others; he is strongly imaginative and dramatizes through play the activities of the adult

world; he is capable of satisfactory reasoning and planning in relation to his own problems; he is intensely curious about life going on about him; he learns through the manipulation of tools and materials; he has an urge to express himself creatively through various media; and he is capable of increasingly acceptable social behavior if his environment is favorable to the operation of democratic principles.

Like every human being, this child needs an environment that will stimulate him to grow through exploring new fields, that will give him an opportunity to know success at his own level and at the same time give him the security of being accepted by his group, that will safeguard his physical and mental health.

What are the natural interests of young children on which the teacher may base learning experiences? Reed and Wright tell us that children's interests are in the "here and now," that they are vitally concerned with "movement and color, sights and sounds, machines and tools, and the mechanics or whys of what is going on about them."¹ A more detailed inventory of children's interests at this age probably includes the following elements:

- a. Things that move (trains, trucks, boats, airplanes, and the like)
- b. Workers in the community and what they do
- c. Ways of communicating with others (telephone, radio, post office)
- d. Nature interests (weather, seasons, insects, growing things, birds, animals, rocks, and the like)

From a list such as this the teacher must choose learning experiences worthy of exploration by the group. In making the choice she will need to ask herself four questions.

RELATION OF AREA OF INTEREST TO CHILDREN'S EXPERIENCE

First, is the area of interest within the range of children's experience and closely related to their needs and interests? Now the teacher may wish to wait for interests of her particular group to develop through play with materials provided at school, or she may select in advance an area that is well established as a vital interest of young children. In either event she will consider carefully the range of experience of her particular group. Obviously, a primary teacher in Palm Springs would not choose for her group a study of boats, while a teacher in Monterey or San Pedro would find such a study closely related to the experience of the children. Children living in a farming region or a lumbering region, in a fishing region or a railroad center will profit most from an exploration of the work of their own community, provided the processes involved are within their understanding. There can be no standardization of curriculum content, therefore, except in so far as various communities have common elements. The teacher must remember that it

¹ Mary M. Reed and Lula E. Wright, *The Beginnings of the Social Sciences*. New York: Charles Scribner's Sons, 1932, p. 21.

is her responsibility to help her particular group of children understand something of life in their own communities before they investigate the culture of other communities far removed in distance or time.

VARIETY OF EXPERIENCE

Second, does the area selected offer a variety of experiences which give individuals and the group opportunity for investigation and expression? Are there many worth-while things for children to do that will make this a child-propelled rather than a teacher-propelled study?

What trips can be taken to provide first-hand experience for children? What people in the community may be invited to add to the children's knowledge? What simple experiments may children perform to clarify meanings? What industrial art processes will best help them understand and relive this phase of community life? What natural science interests may be utilized to enrich the study? What problems are children likely to discover as the study progresses? How can they be helped to find answers to their own questions? What stories, poems, music, dances, or graphic art forms may children enjoy to gain deeper appreciations? What phases of the study will children want to relive through dramatic play? What phases lend themselves to rhythmic expression? What experiences will children have, so thrilling that they will be impelled to express their ideas through brief story or verse or through painting?

Someone has said that the basis for the curriculum at the primary level should be play and creative expression. Back of these lies experience, in order that children's play and creative expression may not suffer from malnutrition. The teacher must select those learning experiences which offer her own group the greatest opportunity for learning at first hand and reliving what they have observed through many forms of child expression.

SOCIAL VALUE OF THE CONTENT

Third, the teacher needs to know that the content of the learning experience is socially valuable. Does it represent man's basic need of providing himself with clothing, food, shelter, tools and utensils, of traveling and transporting goods, or communicating with others, or of securing worth-while recreation? Children often show enthusiastic interest in phases of the environment which have little social value, and the teacher will do well to guide them into fields of greater social significance. Consider the relative social value of a toy shop and a market, of a puppet show based on Walt Disney's *Snow White* and a study of community life which would include recreational facilities in their proper perspective. Many teachers need help in determining the worth of the areas of experience they permit children to choose. With so many live and valuable aspects of the community available

everywhere, we should never permit children to waste their time on the mediocre and trivial.

CONTINUITY OF THE LEARNING EXPERIENCE

Fourth, the teacher should assure herself that the learning experiences selected for children represent a continuous and expanding understanding of their own environment, rather than a series of discrete and unrelated incidents. A primary teacher who is remaining a second year with her class recently reported that the playhouse built and enjoyed last spring had, for some reason, not been removed from the classroom during the summer. The children came back to school this fall delighted to find their house, and they immediately resumed their play in it. The teacher wishes to guide the children this year into a study of farm life, and she has brought a sitting hen into the room. The care of the hen becomes another responsibility of the children as they play in the house, and the transition into a study of the farm is a natural and gradual one.

Another primary group participated in a study of farm life last spring, and made a trip to a large farm rather late in the year. They have a new teacher this fall who observes that interest in the farm still runs high, that many children are still talking about and drawing silos. Her plans for this year take account of the children's past experience and their current interest. The silos will lead naturally to the study of milk and that in turn may lead to the market or some other phase of the production and distribution of food.

Continuity of learning experiences for children cannot be the entire responsibility of the individual teacher. The attitude of the principal or supervisor and the keeping of adequate records of children's experiences from year to year are necessary to insure uninterrupted growth.

It is impossible to discuss *what* learning experiences are desirable for children without emphasizing *how* they should be carried on in the classroom. It is beyond question that the democratic process is the one by which children learn most richly, and at the same time gain greatest development as individuals. I know of no other mode of living that so well guarantees to every child the emotional security he needs, the sense of being part of a group enterprise, the personal success through his own achievement, the adventure of exploring new fields. By planning and working as a democratic social group children not only realize their greatest personal development, but they acquire those habits of co-operation and striving for the common good on which our national welfare depends.

This type of learning experience does not happen automatically in every primary classroom. It is our responsibility and our privilege to make possible for every child in our own schools the kind of learning environment we believe will be most developmental for him. Let us dedicate our energies to this end. Let us make this our contribution to America's survival.

THE MUSIC TEACHER CONSIDERS THE INTEGRATIVE CURRICULUM

VIRGINIA IDOL, *Teacher, San Leandro Public Schools*

The place of music in the school program is often the subject of numerous comments and criticisms from school administrators and teachers interested chiefly in social studies, science, and others of the first-to-be-considered elements of the curriculum. It seems desirable that someone offer a defense for the place of music and the work of the music teacher, and attempt to save the position gained only too recently for music after a long struggle for a place of recognized significance in the modern school program. For an art which is so ethereal in its appeal, so bound up with emotional expression and reaction, and yet so dependent upon the mastery of physical skills for its performance and fullest appreciation, music has been given far too little time on most school schedules. Only within the past decade or so has it thrown off the shackles of extracurricular classification and received consideration as an integral part of the curriculum. Even then, in many cases, one or two periods a week have been deemed sufficient for teaching this complex subject. And now come the integrationists who would submerge the music program in a social studies unit or some similar unit of undoubted appeal and usefulness to the child, but which, in too many cases, will touch music only in an incidental way, usually from the point of view of developing rhythm and creative songs if the opportunity happens to arrive.

Frequently, it is granted, a sincere effort has been made by the unit-maker to provide an adequate amount of suggested material for singing, sight-reading, art-song appreciation, and other activities, but almost as frequently there will arise an almost insurmountable obstacle for many schools and teachers. The material suggested may perhaps be in six or eight different texts, some already in use by other grades, some arranged for part singing far in advance of the group ability and containing part-songs which need harmonic treatment for real beauty, others available only as one copy for the teacher, and so on, making the physical problem of obtaining these books so difficult that only a small number of them can or will be used. These difficulties are definite practical considerations which often confront the teacher or supervisor.

Perhaps, as some persons will immediately point out, it is because teachers of music have not been co-operating that the units being developed do not contain significant music materials. There will always be the problem of availability of proper material, or, if this is overcome, a large expenditure of school money will be needed to provide the desired variety of materials.

Unfortunately music books, sheet music, and records are expensive. Again, there is the problem of the time allowed for the subject of music. The little time available is brief enough to try to cover the many phases of music considered essential, and music teachers are not yet willing to surrender it to units of work in which music is incidental to some other emphasis. As Dr. Will Earhart says: "The *spirit* of music may integrate, and tell more about a people or an age than all other agencies can tell. . . . But *I would fight to the death* in opposition to the notion that classes should never approach music except as they came upon it thus incidentally. . . ." ¹

The stupendous task that the music teacher has before her in teaching children to sing and read music, omitting consideration for the time being of instrumental music, appreciative listening and creative music should be considered. First, the child must be taught to use his voice, learning to sing high, low, or in the middle as he may desire. This instruction is very elementary, but it must continue for some length of time, at least six grades, chiefly in the presentation of rote songs which go far beyond the reading ability of the child. These songs also fill the need for emotional expression and creative interpretation. But in order that the child will not always be dependent upon a rote introduction to songs, and that he may be prepared for the time when part-singing will be not only a more satisfying musical experience, but a physical necessity because of a changing voice, the ability to read music must be developed. This necessity is the stumbling block over which many music teachers have fallen into disfavor with the youngsters they are trying to help. How to present it and to accomplish the drill necessary to its perfection without smothering all interest is still an unsolved problem. It is fair to point out that usually where the music program has been stressed and given ample time in the schedule this music-reading problem gradually eases itself.

It is perhaps true that music-reading has been overstressed in most music classes because of eagerness to give children tools with which they can continue to find expression within this form of art. Many great philosophers and thinkers have agreed that "music is a universal language." If this is true, is it not important that children learn to express themselves through that language as well as to learn to understand it? Or to go even further, can they really understand it or appreciate it fully if they do not have some means of expressing music personally? Those who work with numbers of people in church choirs, and in high school classes frequently hear the sad plaint, "Oh, if I could only read music and stay on a part."

But consider the intricacies of music reading. It necessitates a transfer from the printed page, by means of symbols not used in any other language, of tonal and rhythmical groups which must be produced in some physical way. Notes found on the same place on the staff will not always sound the

¹ Quoted by Chester R. Duncan, "Music in an Integrative Program," *Yearbook of the Music Educators National Conference: Thirty-First Year, 1938*. Chicago: Music Educators National Conference, 1938, p. 364.

same; they are governed by a varying key signature. And likewise, note values of different rhythmic figures are changed by altered time signatures. Is it any wonder then that music educators resent any encroachment upon the little time available for music teaching, especially when it is remembered that music-reading is only one phase of the music teacher's task? Some people maintain that it is of less importance than the music teachers have made it, and such an opinion is reflected in an increasing emphasis upon other phases of music: the creative phase, and the appreciative listening phase. Undoubtedly these are important considerations and deserve special emphasis too. But at present, in most schedules it is necessary to slight one to take care of another.

One more word in defense of the so-called failure to make music the appealing, enriching experience it should be for all children. Nothing has handicapped teachers of music so much as lack of adequate, well-chosen, and intelligently arranged published material for school use, especially for seventh- and eighth-grade levels. Only now are the publishers beginning to supply collections of songs which are appealing to the child of adolescent age and which are arranged by those who understand the qualities and limitations of the adolescent voice. In the instrumental field, publishers have had more foresight and have aided efforts to make possible the participation of more pupils in that field of music.

Music teaching has been affected not only by the poor quality of material, but also by the lack of physical properties necessary to do a thoroughgoing job. Frequently the teacher has no phonograph, or few records, or too few books, or no piano, or a piano which will not stay in tune because it is so old and worn.

And last but not least, there is a tragic flaw in the music program which can hardly be overcome by any amount of splendid equipment or adequate time given to music—the unprepared, unmusical teacher. Archibald T. Davison puts it thus:

. . . We assign to kindergarten and grade-school teachers, many of whom are unfitted for such work, the duty of establishing the fundamentals of musical knowledge and taste, which of all the tasks of music education is the most crucial. . . .

If indeed there is to be a real American democracy of music, not an aristocracy of the gifted, we must see to it that every stage of music education is carefully and skillfully constructed, especially that part upon which rests the entire development, namely, the elementary school.¹

In spite of the present need to defend the music program, there are many signs of encouragements, and surely better days are ahead for school music. The time-allowance on school programs is slowly being increased, published material is improving, school music libraries are gradually being built up and

¹Archibald T. Davison, *Music Education in America: What Is Wrong with It? What Shall We Do About It?* New York: Harper & Bros., 1926, pp. 43-44. Used by permission of the publisher.

increasing interest is being shown by teacher-training institutions in preparing the classroom teacher to handle music more competently. All of these things add up to augur a much brighter future for music in the schools and therefore, in the home, community, and nation.

This brings up the consideration of integration. Much published material on the subject has emphasized the fact that music is one of the richest of integrating agencies, but many teachers believe that such skills as sight-reading and playing are too highly specialized to be achieved as an incidental part of the integrative program, that, above all, music is of value for its own sake. Paul R. Hanna puts it very well in this statement:

Music has a dual role in the program:

1. It gives insight into the culture and life of other peoples.
2. It allows for self-expression musically—this must be apart from the integrated curriculum.¹

Too many opportunities to enliven and vitalize music classes are overlooked by the teacher's failure to identify them more closely with outside forces. For instance, music in the motion pictures offers a vast unexplored field which is important and challenging. There are many good composers writing background music for motion pictures today, music of which most people are not even conscious. The radio could be a much greater influence toward cultivating tastes for good music than has been made of it. Because many of the better programs are given outside of school hours they have not been linked up in any way with the school program. And, above all, more recognition should be given to the importance of popular music, for this is a basis of appeal from which all could work. Lilla Belle Pitts says:

. . . Popular music has become a force for us to reckon with, not from sheer impact of outer volume, but because of the peculiar strength of youth's inner response to its presence.

The music educator's primary concern is, therefore, to study the character of this interest, then combine with coworkers in making a serious effort to provide music experiences which will emancipate youth from dependence upon the immediate and the transitory. . . .

. . . The chasm between swing and symphony may look, to some, very wide indeed, but one of the assured present and future needs of youth is the kind of adult guidance that will help them to build their own bridges.²

To go back to Mr. Hanna's statement as to the first part of the dual role of music—"to give insight into the culture and life of other peoples"—it might be added that music gives insight into the culture and life of our own people and times, and all teachers could well afford to give more attention to the music in our own social scene.

¹ Quoted by Chester R. Duncan, *Op. cit.*, p. 363.

² Lilla Belle Pitts, "Music and Modern Youth," *Music Educators Journal*, XXVI (October, 1939), 68. Used by permission of the author and the publisher.

RADIO SERVICE FOR THE SCHOOLS OF SANTA BARBARA COUNTY

GEORGIANA K. BROWNE, *Elementary Curriculum Assistant, Santa Barbara County*

Radio service for the schools of Santa Barbara County was inaugurated with the beginning of the school year, 1939-40. The following features were incorporated in the service:

1. Opportunity for the use of radio and the training in listening that such use requires.
2. Informational broadcasts calling for some type of classroom participation, local enough in character to belong to the schools themselves and closely related to the actual work going on in the classroom.
3. Script writing and the broadcasts directed by a radio co-ordinator, working with the county superintendent of schools and supervisors, with some help from teachers of the county and their pupils; participation of the children in the actual broadcasting not a part of the plan.
4. Use of the radio service entirely optional with individual teachers.

Co-operation of a local radio station was sought and willingly given. This station granted the schools two free fifteen-minute periods. These periods were for mid-morning broadcasts; one on Monday for the older group, and one on Wednesday for the primary group.

The first step in planning was to ascertain what units were to be taught in the schools during the fall term. This was done by means of a survey. As a result of the survey, topics for radio broadcasts were selected.

With subjects planned, the next step was to make available to the teachers detailed information as to each forthcoming broadcast. This preview of broadcasts reached each teacher by means of a weekly bulletin sent from the office of the County Superintendent of Schools. The bulletins contained a fairly complete outline of the program to be given, suggestions for the use of the material, possible follow-ups, and sources of the material. The bulletins were in the hands of the teachers at least ten days in advance of the broadcast.

As a means of checking the usefulness of the service, a self-addressed post card was included with the bulletin. The card contained a mimeographed form to be filled in by the teacher after using the program, and returned to the central office. The cards provided much needed information on ways to improve the broadcasts. By means of these cards, the use and quality of reception of the programs in the schools could be ascertained. It was possible, also,

to determine what teachers had individual needs that might be met in the programs.

Many schools of the county were not equipped with radios. Some of the smaller schools had no electricity. Some were located in parts of the county where radio reception was poor. Some of these difficulties were met. Several radios were supplied through various sources to schools that had few or none. A few battery sets were purchased for schools with no electric power. For the most part, an eager and interested school audience was developed in a large majority of the schools of the county.

Topics planned for the primary grades centered around the home for the first half year. They included such subjects as Beautifying the Home, Health in the Home, Safety in the Home, Good Manners at Home. The broadcasts were in the form of stories, bits of familiar music, and favorite poems of the children. Each broadcast included some activity in which the children might participate: a rhythm, a game, a search for new words, and ways to use the new words, questions to answer together, pictures to draw, things to make.

Each broadcast also included a short talk on how to listen, sitting relaxed, with feet and hands still, and thoughts quiet.

During the latter half of the year the topics chosen expanded from the home to the neighboring community. They were concerned with such activities as the work of the postman, the fireman, the policeman, a trip to the bakery; study of the cow as a manufacturer; personal problems such as the care of the feet, shoes and their making, recreation and how to enjoy it safely.

Topics for the older children included discussions on weather, historic accounts of Santa Barbara County as told by early pioneers; study of county industries such as lemon, sugar beet, bean, and flower seed growing; petroleum, fishing. Holidays were given special attention in story, music, or verse. The first programs were distinct units in themselves.

During the latter half of the school year, each topic was given on a two-program basis, the first broadcast introduced the subject and suggested possible further work by any group interested in learning more of the subject; the second, or follow-up program, given two weeks later, discussed another phase of the same topic, answered questions raised in the first broadcast, or presented materials sent in by teachers and pupils showing their work on the subject. This plan drew the schools closer to the radio service. It offered new opportunity for self-expression, a sense of the common problems all schools face, and fuller co-operation.

The search for material to be used in the broadcasts led to interviews with workmen interested in various local enterprises, to interviews with older residents of the community who remembered its early days and whose memoirs had never been written, to field trips for first-hand information to pass along to a school audience. Help was given by the farm adviser, the

county agricultural department, plans and planning commission, police and fire departments, as well as county health department, local dairies and bakeries, and others.

These activities made necessary another teacher in the field with time to contact local interests and local industries, and interpret those contacts to all class rooms that might find such information of value in their own work.

Co-operation with the local daily newspaper, owners of the radio station KTMS, gave added zest to the radio service. For some time the newspaper had published a Sunday page devoted to school news of the city and county. Because of interest in the radio service experiment, the newspaper planned a new page to appear on Sunday. The publicity worker for the schools of Santa Barbara City who had helped with this page, worked with the radio co-ordinator and the newspaper staff to make this new children's page closely related to the radio work being done. Broadcast topics of the week were elaborated by stories, pictures, questions, games, and even a crossword puzzle, key word of which was the radio subject. Part of the page was printed in large type for the young readers. Many teachers and children found this page useful in the classroom for follow-up work.

Parents and other adults not connected with the school system made many interesting comments on the fine work being done in the public schools. Not a single broadcast was planned as a bid for school publicity. Each broadcast was carefully designed to achieve the purpose for which it was planned, namely, radio service for the schools of Santa Barbara County.

THE PLACE OF THE SUPERVISOR IN THE PROGRAM FOR THE DEVELOPMENT OF THE EXCEPTIONAL CHILD¹

F. O. BUTLER, M.D., *Medical Director; and Superintendent,
Sonoma State Home, Eldridge*

Education of the exceptional child is an indispensable part of the program of the public schools. The school supervisor plays a very important part in this program. He must see that the needs of every child under his jurisdiction are being met, and that the necessary facilities for the teaching of the exceptional child are provided. The supervisor must also "sell" to the taxpayer the need for more funds for special education. He should do all he can to see that special training is provided for teachers of special education.

To be able to perform all these duties the supervisor must know the different types of exceptional children and what can be done for them. Important types in the group of exceptional children are the mentally defective, those presenting behavior problems, the gifted, the nonreaders, physically handicapped, the deaf, the hard of hearing, the blind, those with defective vision, and defective speech.

PROCEDURES IN DEALING WITH EXCEPTIONAL CHILDREN

Certain procedures are necessary in dealing with the exceptional child: early discovery of the exceptional condition, diagnosis, developing favorable attitude in parents and teachers, guidance, training, and supervision are imperative.

Discovery and Diagnosis. Early discovery is the duty of the parents, the supervisor, and the teacher. A thorough neuropsychical examination should be made on each of these children. This should be done if for no other reason than to rule out physical causes or to determine their severity. It is generally wise to first consult the family physician so that there will be no future opposition from that source; then a specialist, if his services are indicated, or a large clinic.

After a complete physical check-up has been made, a psychological and, if the findings indicate it, a psychiatric examination should be had. This service can be obtained in northern California from the Out-patient Clinic of the Sonoma State Home, or from a psychiatrist located at one of the state hospitals.

The Out-patient Clinic of the Sonoma State Home comes to a community by request and should be able to give more frequent service this

¹ Adapted from a paper read before the Northern Section, California School Supervisors Association, September 15, 1940, Chambers Lodge, Lake Tahoe, California.

coming year. This clinic, to be effective needs the co-operation of the child, the parents, the supervisor, the teacher, and the community. The supervisor should furnish a complete history of the environmental conditions and the background of the individual's life. After the clinic has made its diagnosis and recommendation it then becomes the duty of the supervisor to see that the recommendations are carried out.

Attitude Toward the Exceptional Child. Supervisors should help to develop the right attitude in both parents and teachers, toward these exceptional children. Such an attitude is necessary both at home and at school, and is often the determining factor in the child's life adjustment.

Guidance, Training, and Supervision. Exceptional children should be guided into work where they will have a chance to use all the ability they possess, develop a feeling of success, and be happy.

A greater amount of supervision will be needed for all children falling in the exceptional classification. The mere fact that they are "different" from the average child makes this necessary.

CARE AND TREATMENT OF MENTAL DEFECTIVES

If the presence in the home of the mentally defective child is detrimental to the welfare of normal brothers and sisters, especially to their economic or social status, he should be removed and cared for elsewhere. This can be in a foster home, a private institution or school, or a state institution. If, however, the presence of this child in the home is not detrimental, he may, through educational measures, become adjusted.

Children of lowered mentality often lead a miserable existence because parents and teachers harass them, attempting to push them ahead beyond their ability. This is further complicated by feelings of inferiority. It is essential to convince the parent that the child is below normal mentally, and much depends upon how this is done and how received. The shock to the parents is great, but they must have this knowledge so that the child will not be driven to tasks beyond his ability. The supervisor must then see that the child secures the most advantageous training while attending school, and that he is allowed to leave school when he is no longer able to profit by attendance.

The mentally defective child should be given work commensurate with his ability or lower to foster a feeling of success. New work should be introduced slowly and should be made as concrete as possible. All subjects in which no progress can be made should be omitted, and advancement permitted at his own rate. In other words, give the child a chance to learn what he needs to adjust on his own level.

The mental defective should be guided into an occupation he can do. Boys can serve as assistant farmers, ranchers, gardeners, mechanics' helpers, delivery and errand boys. Girls can work as domestics, waitresses, and nurse-

maids. The state examinations in California keep the girls out of beauty culture, and their lack of speed prevents them from being successful in factories. They will need supervision throughout a lifetime.

Special Schools and Special Classes. Special schools in larger districts seem to work out satisfactorily, but in the smaller districts special classes for mentally defectives are criticised by some of the parents who object to having their children so labeled. This matter of handling the exceptional child should best be left to the local people and the situation as it obtains in a given community.

Registration: The tabulation of the mentally deficient type in the community and state is most essential if we ever expect to meet this problem properly. They should be registered locally as well as in some central state department, probably that of the Department of Institutions. I realize there are some who are opposed to such registration, but believe they are quite in the minority.

In such a program as this I feel there should be a legislative measure to set up a real state control program of a permanent nature, similar to the one now operating in South Dakota. The South Dakota Plan thus far is proving very satisfactory, and, ultimately, should meet the needs of all retarded individuals in that state. While South Dakota has a small population, yet I cannot see why such a program, or a similar one, should not work out well in any state, regardless of size, since practically no state cares for more than approximately 10 per cent of the mentally deficient in state institutions.

Such a state plan would eliminate duplicate examinations and diagnoses, and through continuous treatment of the right kind would make for a greater happiness for the individual child.

On account of the high cost of building and maintaining institutions for the mentally defective, it is quite obvious that we shall always have only a very small number of such cases under twenty-four-hour supervision. Hence, it behooves us to concern ourselves most earnestly with the majority who are abroad in the world, unsupervised, and reproducing entirely too rapidly for the ultimate welfare of the nation.

While eugenists predict that by approximately 1960 the world will start depopulating, yet we should not let this influence us in necessary preventative measures that should be adopted eventually to change the ratio of the number of defectives to the number of the normal. In other words, we should use our influences both ways, increasing those in the upper brackets and decreasing those in the lower.

ADJUSTMENT OF BEHAVIOR PROBLEMS

Many mental defectives become behavior problems because of injudicious handling. It is valuable, however, to know the ability of the child with whom one is dealing. Early recognition will often prevent delinquency.

Persons of average or superior mental capacity often become behavior problems. Parents and school may have used unwise methods of training. The child becomes nervous, develops tantrums, enuresis, and various unfavorable habits. The prognosis for improvement naturally depends upon the cause and the guidance. If the cause is due to disease such as encephalitis or other brain injury, the prognosis for adjustment is poor. If no permanent injury is present, the child, under intelligent guidance, may adjust. The school and the probation department should be united in their efforts for the child's improvement.

GUIDANCE OF GIFTED CHILDREN

It has often been said that the gifted child has been most neglected in our educational system. He may become a serious menace to society because he is not allowed to use his superior intelligence in a constructive way. In other words, he is kept to the grade or lock step and not having enough to do lives up to the old saying that the "devil finds work for idle hands."

The condition of his health should determine how he is to be treated. If the gifted child has good health and is mature for his age, it may be wise to allow him to slight some subjects, work faster on others, and be placed where he is happy, interested, and working to his full capacity. If his health is not good or he is immature for his age, regardless of IQ, he may need a broadened and flexible curriculum and not acceleration. Whatever the plan used, the gifted child should be allowed to make free use of his superior mental endowment.

SPECIAL TREATMENT FOR NONREADERS

Many children of normal or superior intelligence are unable to learn to read. They memorize the lesson through clues on the page or become adept at covering up their inability. As very little academic work can be accomplished without the ability to read, this is a serious problem. It has even been the cause of delinquency.

When it is discovered that a child is not learning to read after a period of school attendance it is often wise to delay or omit reading for one or two years. A reading readiness program can be followed and when the child shows a desire to read he should then be reintroduced to words. The situation should be fully explained to the parents, as most parents feel that the school is not doing its duty by their child if he does not learn to read immediately after entering school.

A diagnosis of errors should be made and one or a combination of the remedial reading methods used such as those devised by Monroe, Fernald, or Kirk. The child should be encouraged to read easy reading material on some subject in which he is interested. Great care should be exercised that he does not select stories or books too difficult and thus become discouraged. Several short periods of individual instruction daily are better than one long period.

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